Research Product 85-03

BASIC SKILLS RESOURCE CENTER: DOCUMENTATION AND PHASEOVER REPORT FOR THE MILITARY EDUCATORS RESOURCE NETWORK

Instructional Technology Systems Technical Area
Training Research Laboratory

January 1985

U. S. Army Research Institute for the Behavioral and Social Sciences

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the Deputy Chief of Staff for Personnel

EDGAR M. JOHNSON
Technical Director

L. NEALE COSBY
Colonel, IN
Commander

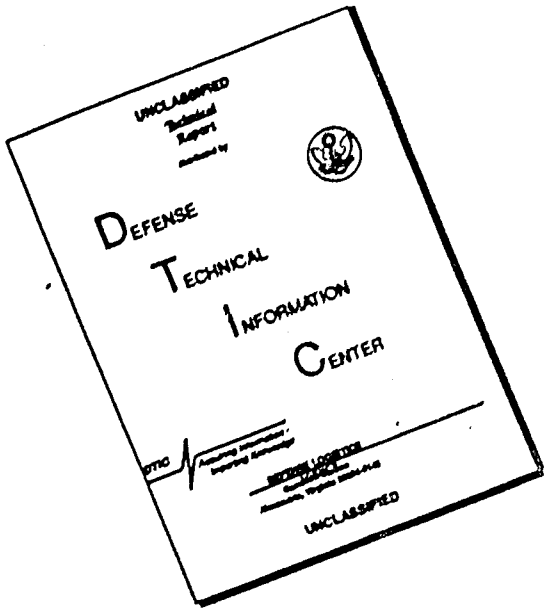
Research accomplished under contract for
the Department of the Army

InterAmerica Research Associates, Inc.

Technical review by

William T. Allison - Education Division, ODCSPER
Dorothy Scanland - Defense Activity for Non-Traditional Education Support (DANTES)
Richard P. Kern

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER ARI Research Product 85-03	2. GOVT ACCESSION NO. AD-A158 828	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) BASIC SKILLS RESOURCE CENTER: DOCUMENTATION AND PHASEOVER REPORT FOR THE MILITARY EDUCATORS RESOURCE NETWORK		5. TYPE OF REPORT & PERIOD COVERED Interim Report Feb 1982 - Sept 1984 6. PERFORMING ORG. REPORT NUMBER --
7. AUTHOR(s) Russo, R.P., Foster, J.A. (InterAmerica), and Modjeski, R.B. (ARI)		8. CONTRACT OR GRANT NUMBER(s) MDA 903-82-C-0169
9. PERFORMING ORGANIZATION NAME AND ADDRESS InterAmerica Research Associates, Inc. 1555 Wilson Boulevard, Suite 508 Rosslyn, VA 22209		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 2Q263743A794 3112102
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue, Alexandria, VA 22333-5600		12. REPORT DATE January 1985 13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) --		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE --

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

--

18. SUPPLEMENTARY NOTES

Dr. Richard Kern was the technical monitor of this project.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Adult education
Army Education Information System
Computer-Based Information System
Technical Information Center

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Military Educators Resource NETWORK is part of the Basic Skills Resource Center. The NETWORK provides military educators, researchers, and administrators with information on basic skills and continuing education. This report delineates all operational procedures developed and used by project staff during the initial operational phase of the NETWORK. The report includes: file specifications and print formats associated with the computerized database; request and response processing procedures and related forms;

(Continued)

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

i SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

ARI Research Product 85-03

20. (Continued)

as well as copies of all publications prepared and disseminated by the NETWORK staff.

Research Product 85-03

BASIC SKILLS RESOURCE CENTER: DOCUMENTATION AND PHASEOVER REPORT FOR THE MILITARY EDUCATORS RESOURCE NETWORK

Rocco P. Russo, Julia A. Foster
InterAmerica Research Associates, Inc.
and
Richard B. Modjeski
Army Research Institute

Submitted by
Zita M. Simutis, Chief
Instructional Technology Systems Technical Area

Approved as technically adequate and submitted for publication by
Harold F. O'Neil, Jr., Director
Training Research Laboratory

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES
5001 Eisenhower Avenue, Alexandria, Virginia 22333

Office, Deputy Chief of Staff for Personnel
Department of the Army

January 1985

Army Project Number
2Q263743A794

Education and Training

FOREWORD

The Instructional Technology Systems Technical Area, U.S. Army Research Institute (ARI), conducts research in support of Training. This research on an education information system was initiated in response to a request from the Office of the Deputy Chief of Staff of Personnel (ODCSPER) to disseminate knowledge and techniques to users on state-of-the-art educational research and practice. Information systems which are a subset of complex information databases were designed to be used by Army educators, administrators, and researchers as a part of this research effort.

As part of the task of developing and implementing an information center, a database of Army specific information was established. The documentation and phaseover report provides the essential procedures needed to establish an information center throughout the Department of Defense (DOD). The computer formats used in this database report meet both Army and DOD standards. Examples of publications produced by the information center are also included.

EDGAR M. JOHNSON
Technical Director

BASIC SKILLS RESOURCE CENTER: DOCUMENTATION AND PHASEOVER REPORT FOR THE MILITARY EDUCATORS RESOURCE NETWORK

EXECUTIVE SUMMARY

The Basic Skills Resource Center (BSRC) is to be developed and operated by InterAmerica Research Associates, Inc. under contract with the U.S. Army Research Institute. The BSRC project has two interfacing components: the implementation and monitoring of applied research in the area of adult basic skills and continuing education; and the design, implementation, and operation of an information service. Following the completion of a needs assessment, a design plan was identified for the operation of an information service entitled "The Military Educators Resource NETWORK." This report is intended to document the operational procedures that have been implemented by project staff during the NETWORK's initial operational phase.

The report provides a brief overview of the needs assessment results and the operational design plan specified for the NETWORK. As outlined in the design plan, a computerized database and library collection were to be developed to support the information services offered by the NETWORK. File specifications for the Bibliographic and Human Resources Directory components of the database are identified as well as descriptions of related print formats for the citations maintained in these files. Descriptions of the appropriate filing and cataloging procedures for the various components of the library collection are fully delineated.

The purpose and objectives of the Inquiry Response and Referral Services are highlighted. In addition, all procedural forms and logs used in the processing of questions and responses are outlined. The operational designs of all publications developed through the Publication Development and Dissemination Service are specified. Copies of all publications developed by the NETWORK staff are provided in the appendices to illustrate graphical considerations and content. The purpose and objectives of two information activities offered via the Current Awareness Service are identified. All related processing procedures for these activities are delineated and related publications are exhibited in the appendices.

Procedures described in the report were initiated in March 1983, which marked the initial offering and pilot testing of the NETWORK's services. The information contained in the report is intended to facilitate the continued operation of the NETWORK following the completion of the pilot test of the NETWORK's operational design.

BASIC SKILLS RESOURCE CENTER: DOCUMENTATION AND PHASEOVER REPORT FOR THE MILITARY EDUCATORS RESOURCE NETWORK

CONTENTS

		Page
I.	INTRODUCTION	1
	Purpose and Objectives	3
II.	THE NETWORK'S COMPUTERIZED DATABASE AND LIBRARY COLLECTION	5
	The NETWORK's Database Specifications	5
	The Bibliographic File	7
	The Human Resource Directory File	15
	The NETWORK's Library Collection	22
	Periodical Collection	22
	Book Collection and Card Catalog	23
	Vertical File	24
III.	INQUIRY RESPONSE AND REFERRAL SERVICES	27
	Purpose	27
	Processing of Questions	29
	Response Processing	34
IV.	PUBLICATION DEVELOPMENT AND DISSEMINATION SERVICE	40
	Brochure and Rolodex Card	40
	Newsletter	41
	Fact Sheets	44
V.	CURRENT AWARENESS SERVICE	45
	NETWORK Vanguard	46
	NETWORK Profile Service	47
VI.	SUMMARY	50
REFERENCES		52
APPENDIX A.	NETWORK BIBLIOGRAPHIC FILE SPECIFICATIONS	A-1
B.	BIBLIOGRAPHIC FILE WORK FORM	B-1
C.	NETWORK HUMAN RESOURCES DIRECTORY FILE SPECIFICATIONS	C-1

CONTENTS (Continued)

		Page
APPENDIX D.	HUMAN RESOURCES DIRECTORY FILE WORK FORM	D-1
E.	NETWORK BROCHURE	E-1
F.	COPIES OF THE NETWORK CIRCUIT	F-1
G.	COPIES OF THE NETWORK FACT SHEET	G-1
H.	COPIES OF THE NETWORK VANGUARD	H-1

LIST OF FIGURES

Figure 1.	Print Format A: Bibliographic File	13
2.	Print Format B: Bibliographic File	14
3.	Print Format A: Human Resources Directory File	20
4.	Print Format B: Human Resources Directory File	21
5.	Card Catalog Slip	25
6.	Information Request Form	31
7.	Information Request Log	33
8.	NETWORK Rolodex Card	42
9.	NETWORK Profiles Checklist	48

I. INTRODUCTION

In April 1982, InterAmerica Research Associates, Inc. initiated the Basic Skills Resource Center (BSRC) project. Funded through the U.S. Army Research Institute (ARI) under Contract Number MDA 902-82-0169, the BSRC consists of two components: a research component that has undertaken the design, implementation, and coordination of a learning strategies research agenda, and an information component that has designed and operated the Military Educators Resource NETWORK. The focus of this report is the delineation of the operational procedures developed by NETWORK staff during the NETWORK's initial operation cycle. This documentation is intended to facilitate the continued operation of the NETWORK following the completion of the pilot test of the NETWORK's operational design.

Prior to the start-up of the NETWORK in March 1983, two related activities were completed by InterAmerica staff. These included: the conduct of a needs assessment and the specification of an operational design plan. The needs assessment was undertaken to provide an empirical base for the design of the BSRC information service. The needs assessment sought to determine the potential users of the information service, their information needs, and the scope of and accessibility to services. The needs assessment findings (see Russo, Rivera, DeCarme, and French, 1982) revealed several considerations that needed to be addressed in the identification of an operational design for the information service. Generally, it was recommended that a computerized information database be developed in order to facilitate quick response turnaround times. It was believed that the information services should respond primarily to inquiries received from

educators/practitioners associated with the Army's basic skills education program. Finally, it was suggested that the information service provide a proactive information dissemination component to address topics of interest to military educators and to stimulate user requests.

These basic considerations and others were explored in more detail by InterAmerica staff in an effort to describe a clear operational design plan for the NETWORK. Through a review of the needs assessment data and subsequent discussions with ARI and The Adjutant General's Office (TAGO) staff, the following mission was specified for the NETWORK: to provide practitioners, researchers, and policymakers within the Department of the Army with up-to-date information relevant to basic skills and continuing education issues. The design plan (see Rivera, Russo, and DeCarme, 1982) provided an operational framework that outlined the purpose and objectives of the NETWORK, the primary and secondary user groups, the services to be provided, and the content and focus of these services. Three basic functions were identified to carry out the mission established for the NETWORK. These included: (a) the development of a computerized database; (b) the dissemination of information through the provision of the Inquiry Response and Referral Services, a Publication Development and Dissemination Service and a Current Awareness Service; and (c) the evaluation of these services. As noted earlier, the focus of this report is the description of the NETWORK's operational procedures associated with the computerized database and each of the services offered by the NETWORK. A synthesis of information regarding the evaluation of the NETWORK's activities and services is to be discussed in the final report of the BSRC information component.

Purpose and Objectives

The basic design plan recommended by InterAmerica staff was implemented in March 1983 which marked the beginning of the formal pilot test of the NETWORK's services. The purpose of this report is to document the operational procedures that have been implemented by project staff during the initial operational period. The descriptive information contained in this report is intended to facilitate the continued operation of the NETWORK following the completion of the pilot test. The specific objectives to be addressed by this report are:

- To describe the specifications of the NETWORK's computerized database relative to the bibliographic information file and the human resources directory file.
- To provide a complete and accurate description of the purpose and objectives of the NETWORK's services, that is, the Inquiry Response and Referral Services, the Publication Development and Dissemination Service, and the Current Awareness Service.
- To describe all procedures, including forms, files, and catalogs, utilized by project staff in the provision of the NETWORK's services.

The following sections of this report provide the necessary documentation required to meet each of these objectives. Specifically, Section II of this report provides the file specifications for the NETWORK's computerized database. In addition, a complete description of the NETWORK's library is provided. Section III delineates the purpose and objectives of the NETWORK's Inquiry Response and Referral Services as well as procedures used to record, prepare, and respond to inquiries received from users. The purpose and objectives of the Publication Development and Dissemination Service are described in Section IV. This section also includes copies of

all publications prepared and distributed by the NETWORK. Section V outlines the purpose and objectives of the Current Awareness Service and provides copies of all related publications. Finally, a brief summary is provided in the final section of this report.

II. THE NETWORK'S COMPUTERIZED DATABASE AND LIBRARY COLLECTION

The primary mission of the Military Educators Resource NETWORK is the provision of information to the Department of the Army's education personnel relevant to adult basic skills and continuing education issues. The foundation required to support this mission includes a well-developed collection of materials and an effective process for the retrieval of information from the collection.

The collection of materials, as identified through the needs assessment activities, was to include information that is representative of programmatic and research efforts in the areas of basic skills education. In addition, the collection was to include descriptions of Army basic skills education programs as well as reference and referral information. The NETWORK's design plan specified that the information to be used by the NETWORK was to be maintained primarily by a computerized database. The design plan also specified that the database would be complimented by the development of a small library collection. Together, the computerized database and the library collection were intended to provide the support mechanisms for the operation of the information services offered by the NETWORK. The operational procedures associated with the database and library collection are described in detail in this section of the report.

The NETWORK's Database Specifications

The development of a computerized database was undertaken to provide the primary support necessary for the operation of the NETWORK's information

services. A computerized database facilitates the standardization of the information storage and retrieval processes needed to provide information to the NETWORK's target audiences. The development of the NETWORK's database includes two distinct files which allow the NETWORK to address the varying information needs of the NETWORK's primary and secondary user groups as well as address the unique characteristics of the various information services offered by the NETWORK (i.e., Inquiry Response and Referral Services, Publication Development and Dissemination Service, and the Current Awareness Service). The two component files are: a Bibliographic File, providing access to resource citations pulled from the Educational Resources Information Center (ERIC) and National Technical Information System (NTIS) databases and other input as the NETWORK's collection develops; and a Human Resources Directory File, providing information on ongoing research projects, educational programs, and organizations (all, hopefully, with contact persons included for referral).

The specifications for these two files vary somewhat (see Appendices A and C). The Bibliographic File is structured for compatibility with Machine Readable Cataloging (MARC) format tags in preparation for possible eventual conversion; although the MARC codes will be "built-in" and visible on some forms for mapping purposes, they will remain invisible to users. Specifications for setting up the MARC leader and the directory will be written when the system in which these tapes are to be used is identified. The data delimiters for the MARC tapes will be:

Tag delimiter = the "at" symbol (@)

Subtag delimiter = the plus sign (+)

Delimiter within subtag data = the semicolon (;)

Delimiter between each record = the exclamation point (!)

(Note: The Defense Activity for Non-Traditional Education Support (DANTES) has expressed interest in continuing the operation of the NETWORK. A test data tape of the NETWORK's computerized database has been provided to DANTES personnel. Their computer support staff have successfully read and utilized this data tape. Given this outcome, InterAmerica staff have discussed the need to incorporate the MARC format tags into the final data tape. Based on these discussions, it appears that MARC tags are not required and therefore, will not be included in the final data tape. Currently, InterAmerica staff are awaiting written notification of this decision.)

The Bibliographic File

The following sections are intended to outline (a) the data elements contained in the Bibliographic File, and (b) the print formats available for this segment of the NETWORK computerized database. For each data element used to delineate information aspects of a bibliographic citation, a mnemonic field label is identified, the MARC tag descriptor is specified, a description of the field length, contents, and characteristics is provided, and when necessary, examples are provided to clarify data element descriptions. This detailed information is presented in a tabular format in Appendix A in order to provide a quick reference for future use. In addition, a work form for the Bibliographic File is exhibited in Appendix B. This work form is used by NETWORK staff in the preparation of bibliographic citations to be entered in the database. Finally, two print formats are discussed and examples of each are provided in accompanying figures.

Data Elements. The Bibliographic File consists of the following data elements:

Data Element:	NETWORK Accession Number
Mnemonic:	AN
MARC Tag:	090; both indicators are always blanks (b).
Description:	$a = a mandatory field of two alphabetic characters and five numerals.
Example:	BL00024.

Data Element:	Personal Author
Mnemonic:	AU
MARC Tag:	100; first indicator always = 1; second indicator always = 0.
Description:	An alphabetic field which will hold up to 150 characters. Subfield $a = surname, first name; subfield $c = title,
Example:	Collins, Arthur S., Jr.; Lt. Gen. U.S. Army (Ret).

Data Element:	Corporate Author
Mnemonic:	CA
MARC Tag:	110; first indicator always = 2, second indicator always = 0.
Description:	An alphabetic field which can hold up to 150 characters. Subfield $a = corporate name; subfield $b = subordinate corporate units.

Data Element:	Conference/Meeting Author
Mnemonic:	MA
MARC Tag:	111; first indicator always = 2, second indicator always = 0.
Description:	An alphabetic field which can hold up to 300 characters. Subfield $a = name of the meeting or conference; $q = place where conference was held; $d = date of conference; $e = subordinate corporate units named in conference; $g = any miscellaneous information needed to clarify entry.

Data Element: Title
Mnemonic: TI
MARC Tag: 245; first indicator always = 1; second indicator shows the number of nonfiling characters at the beginning of the title.
Description: A mandatory alphanumeric field containing up to 150 characters. Subfield $a = the title proper; subfield $b = subtitle or parallel title.

Data Element: Publication Type
Mnemonic: TP
MARC Tag: 245; both indicators are blanks (b). In true MARC format, this field is a subfield ($h) of the title field. It is separate here to allow search limiting by type of material, using the PUBTYPE codes from the ERIC Thesaurus (journal article = 080, research report = 143, audiovisual = 100, etc.)
Description: A mandatory numeric field of up to 20 characters.

Data Element: Series Statement
Mnemonic: SE
MARC Tag: 490; first indicator always = 1, second indicator always = b.
Description: An alphanumeric field of up to 75 characters. Subfield $a = series statement; subfield $v = volume or number; $x = International Standard Serial Number (ISSN).

Data Element: Publication Date
Mnemonic: DA
MARC Tag: 260; both indicators are always blanks (b).
Description: Subfield $c = date of publication or issue. A numeric field which, if filled in, must contain six numbers in the order YYMMDD. If not all elements of the date are known, substitute zeros.
Example: 820923 (September 23, 1982).

Data Element: Publisher
Mnemonic: PU
MARC Tag: 260; first indicator = 0 if publisher, distributor, etc. is present in work; = 1 if not present in work. Second indicator is always a blank (b).
Description: An alphabetic field with up to 75 characters. Subfield $a = place of publication; subfield $b = name of publisher. True MARC format would include the date, above, with the publisher in the imprint field, but they are separate here so that items may be searchable or limitable by date.

Data Element:	Language/s of material
Mnemonic:	LA
MARC Tag:	041; first indicator = 0 if work is not a translation, = 1 if it is a translation. Second indicator is always = b.
Description:	An alphabetic field which can hold up to six three-character MARC language codes (up to a total of 30 characters). All entries are under the repeatable subfield $a. This field is mandatory, although most items will probably be English (eng).
Example:	eng; fre; ger.

Data Element:	Physical Description
Mnemonic:	PD
MARC Tag:	300; both indicators are always blanks (b).
Description:	A mandatory alphanumeric field with up to 300 characters. Subfield $a = pagination; subfield $b = illustration, etc.; $c = dimensions; $e = related materials, whether included in our collection or not.
Example:	321 p.; ill.; 24 cm.; BL00230, Military Educators Guide to Basic Skills Training Requirements.

Data Element:	Availability
Mnemonic:	AV
MARC Tag:	265; both indicators are always blanks (b).
Description:	An alphanumeric field of up to 300 characters. Usually an address, but may include any notes necessary. Price and ordering numbers are included in the following field, although notes on price may be input here. All entries under subfield $a.
Example:	University Press of Mississippi; 3825 Ridgewood Rd.; Jackson, MS, 39211; single copies free.

Data Element:	Price and Order Number/s
Mnemonic:	PR
MARC Tag:	020; both indicators are always blanks.
Description:	An alphanumeric field of up to 60 characters. Subfield $c = price, and is repeatable; subfield $a = any order numbers necessary in identifying the appropriate material.
Example:	$19.95; $14.95 pbk. ISMB 0-87805-105-8 (cloth); ISBN 0-87805-109-J (paper).

Data Element:	Government Status
Mnemonic:	GV
MARC Tag:	008; both indicators are always blanks (b).
Description:	Subfield $a = a mandatory alphabetic field of up to 10 characters.
Example:	Government; federal; state; local, etc.

Data Element: Government Document Number
Mnemonic: GN
MARC Tag: 086; first indicator is always = 0; second indicator always = b.
Description: An alphanumeric field of up to 20 characters entered in the repeatable subfield $a.

Data Element: Personal Added Entry
Mnemonic: AE
MARC Tag: 700; first indicator is always = 1; second indicator always = 0.
Description: An alphabetic field of up to 150 characters. Subfield $a = the person's name (surname, first name, middle initial or name); subfield $c = the person's rank or title, if any; subfield $e = a description of how the person relates to the work in hand.
Example: Swanson, Mark A.; Ltjg, U.S. Coast Guard; translator.

Data Element: Corporate Added Entry
Mnemonic: CE
MARC Tag: 710; first indicator always = 3; second indicator always = 0.
Description: An alphabetic field of up to 200 characters. Subfield $a = corporate name; $b = subordinate corporate units; $e = how this entry relates to the work in hand.

Data Element: Conference/Meeting Added Entry
Mnemonic: ME
MARC Tag: 711; first indicator always = 2; second indicator always = 0.
Description: An alphanumeric field of up to 300 characters. Subfield $a = name of conference or meeting; $q = place where conference was held; $d = date of conference; $e = subordinate corporate units of the conference; $g = miscellaneous information needed to clarify conference contribution.

Data Element: Note
Mnemonic: NT
MARC Tag: 500; both indicators are always blanks (b).
Description: Subfield $a = an alphanumeric field of up to 500 characters. A note may contain any information thought necessary which is unsuitable for other fields.

Data Element: Abstract
Mnemonic: AB
MARC Tag: 520; both indicators are always blanks (b).
Description: A mandatory alphanumeric field of up to 1,600 characters. Preferably informative or informative/indicative, prepared in keeping with the American National Standard for Writing Abstracts.

Data Element: Descriptors
Mnemonic: DE
MARC Tag: 690; both indicators are always blanks (b).
Description: Subfield $a = a mandatory alphanumeric field of up to 500 characters (up to 20 descriptors) depicting both major and minor subjects represented in the work in hand. Terms must be chosen from the ERIC or NETWORK thesauri.

Data Element: Identifiers
Mnemonic: ID
MARC Tag: 690; both indicators are always blanks (b).
Description: Subfield $a = an alphanumeric field of up to 300 characters used to identify special subject concepts not appropriate for thesauri.
Example: Coast Guard Educational Enrichment Program.

Data Element: Database Field
Mnemonic: DB
MARC Tag: None
Description: A mandatory three-character alphabetic designation indicating that the record is to be added to the bibliographic component of the NETWORK database. Therefore, the only entry will be BIB, although reference to these materials may be made from directory database entries.

Data Element: Date Entered
Mnemonic: EN
MARC Tag: None
Description: A mandatory field of six numbers indicating the date this record was added to the database, in the format YYMMDD.

Data Element: Date Verified
Mnemonic: VF
MARC Tag: None
Description: A minimum/maximum of six numbers which indicate the date we received verification that this record is accurately represented in the NETWORK database.

Print Formats. The NETWORK Bibliographic File offers the user a choice of two print formats. Format A (see Figure 1) will assist less experienced users by printing out the complete tag name. All tag names will end at the same column so that they appear flush right upon printout, followed by a colon and two spaces. The system will suppress printout of fields which have no input for a particular record (for instance, if a record has a

Figure 1

Print Format A
Bibliographic File

ACCESSION NO:	BL00001.
AUTHOR:	Collins, Arthur S., Jr.; Lt. Gen., U.S. Army (Ret).
TITLE:	Common sense training: a working philosophy for leaders.
PUBLICATION TYPE:	010.
PUBLICATION DATE:	780000.
PUBLISHER:	Novato, Calif: Presidio Press.
LANGUAGE/S:	eng.
PHYSICAL DESCRIPTION:	225 p.; 23 cm.
AVAILABILITY:	Presidio Press, 31 Pamaron Way, Novato, CA 94947
PRICE/ORDER NO:	$6.95; ISBN 0-89141-067-8 pbk.
GOVT STATUS:	not govt.
ABSTRACT:	Two major themes predominate this work: first, that training is the number one business of a peacetime army but that it has suffered neglect; and, second, that the senior commander sets the tone on training in an army organization. The focus is on training at battalion level and below with major emphasis on company/battery/troop level. Although many suggestions on practical down-to-earth training techniques are to be found here, few detailed charts or programs are included. (AU). Includes a foreward by General Hamilton H. Howze, and chapters entitled: 1) A philosophy of training 2) Common excuses for inadequate training 3) What happened? Where did we go astray? 4) Maintenance and training -- the chicken or the egg? 5) Who is responsible for what? 6) Training management 7) Training yourself and the chain of command 8) Unit schools 9) Situational training 10) Training tips 11) Individual training in units 12) Crew Training 13) Small-unit training 14) Large-unit training 15) Combat arms training 16) Competition, testing and inspections 17) Physical training and sports program 18) Reserve component training 19) Quality of personnel and personnel actions 20) Leadership and training 21) Advice for and about generals 22) Fighting qualities, national will, and training.
DESCRIPTORS:	FIELD-INSTRUCTION; LARGE-GROUP- INSTRUCTION; LEADERSHIP-RESPONSIBILITY; MILITARY-TRAINING; NATIONAL-DEFENSE; PHYSICAL-FITNESS; SMALL-GROUP-INSTRUCTION.
INDICATORS:	UNITED-STATES-ARMY.

Figure 2

Print Format B*

Bibliographic File

AU: Collins, Arthur S., Jr.; Lt. Gen., U.S. Army (Ret).

TI: Common sense training: a working philosophy for leaders.

DA: 780000

DE: FIELD-INSTRUCTION; LARGE-GROUP-INSTRUCTION; LEADERSHIP-RESPONSIBILITY; MILITARY-TRAINING; NATIONAL-DEFENSE; PHYSICAL-FITNESS; SMALL-GROUP-INSTRUCTION

* User specified AU, TI, DA and DE data elements in print command.

corporate author, there will be no tag name printed out for personal author or conference author). The printout will be single-spaced within each data element and double-spaced between each data element.

Format B (see Figure 2) will print out the two-letter mnemonics for each tag name, flush left. Otherwise, the printout will be identical to that of Format A; that is, the mnemonic will be followed by a colon and two spaces; unfilled fields will be suppressed; and the printout will be single-spaced within data elements, double-spaced between.

In addition to choice of print format, the user may choose which data elements s/he wishes to have printed out. For example, one may specify only the title, language/s and descriptors when giving the print command. Unless individual fields are requested, the system defaults to full print-out.

The Human Resources Directory File

The following sections are intended to outline (a) the data elements contained in the Human Resources Directory File, and (b) the print formats available for this segment of the NETWORK's computerized database. For each element used to delineate information aspects of a human resource citation, a mnemonic field label is identified, a description of the field length, contents and characteristics is provided, and when necessary, examples are provided to clarify data element descriptions. This detailed information is presented in a tabular format in Appendix C in order to provide a quick reference for future use. In addition, a work form for the

Human Resources Directory File is exhibited in Appendix D. This work form is used by NETWORK staff in the preparation of human resource citations to be entered in the database. Finally, two print formats are discussed and examples of each are provided in accompanying figures.

Data Elements. The Human Resources Directory File consists of the following data elements:

Data Element: NETWORK Accession Number
Mnemonic: AN
Description: A mandatory field of two alphabetic characters and five numerals.
Example: HR00019.

Data Element: Person in Charge
Mnemonic: PC
Description: This alphanumeric field may contain up to 150 characters providing the name of the person in charge of a program, project, organization, etc. and his or her title, address, and phone number.

Data Element: Title
Mnemonic: TI
Description: The title of a program or project and any subtitle or alternate title should be input to this mandatory alphanumeric field of up to 150 characters. This field is not meant to be used for the name of an organization, which should be entered under Performing Agency.

Data Element: Program Area
Mnemonic: TP
Description: This flexible alphanumeric field may contain up to 50 characters indicating the type of educational program, research, or organization represented by the record.

Data Element: Starting and Ending Dates
Mnemonic: DA
Description: This field of up to 13 characters lists first the starting date of a program or project, which is searchable; and the ending date, if known. This is not the field for a date of publication or distribution of reports or other materials connected with the activity; these will be noted in the field termed Related Materials. Starting and ending dates are in the order YYMMDD.
Example: 830819;860400.

Data Element: Performing Agency
Mnemonic: PO
Description: Up to 200 alphanumeric characters may be input to indicate the name and address of the primary institution, agency or organization performing ongoing research or conducting educational programs. This is the correct field to use for listing an agency for organizational directory purposes, or to list the affiliate organization of an individual participant in the human resource file.

Data Element: Language/s
Mnemonic: LA
Description: The 30-character length of this field allows input of up to six three-character language codes. These codes may indicate the language proficiency of an individual; the language/s used in ongoing educational programs, such as ESL programs or courses; etc.
Example: Eng;spa.

Data Element: Related Materials
Mnemonic: RM
Description: Up to 300 alphanumeric characters may be used to guide the user to related materials, which may be items authored by an individual, learning materials produced or used in a program, research reports, etc. If the materials are in the NETWORK collection, the NETWORK accession number and title are sufficient.

Data Element: Target Audience
Mnemonic: TA
Description: This alphanumeric field can contain up to 300 characters indicating the intended audience for which a program, project or, perhaps, an organization's activities are designed.
Example: Army enlisted personnel with reading scores below the 6th grade level.

Data Element: Appropriations
Mnemonic: PR
Description: This field can hold up to 50 alphanumeric characters to list and explain funding arrangements.

Data Element: Government Status
Mnemonic: GV
Description: This is a mandatory alphabetic field which indicates an agency's or individual's governmental affiliation. A maximum of 10 characters may be input.
Example: Federal.

Data Element: Grant/Contract Number
Mnemonic: GN
Description: Up to 100 alphanumeric characters may be used to indicate a project, grant, contract, etc. number with any necessary explanation.

Data Element: Contact Person/s
Mnemonic: CP
Description: The alphanumeric field can hold up to 150 characters--the contact person's name and other useful information such as title, address, and phone number.

Data Element: Supporting Agency
Mnemonic: SP
Description: This alphanumeric field holds up to 200 characters which indicate the name of the supporting or funding agency, any important corporate subunits, and other information such as address and phone number.

Data Element: Note
Mnemonic: NT
Description: This alphanumeric field may contain up to 500 characters. It is the place for any needed information unsuitable for other fields.

Data Element: Abstract
Mnemonic: AB
Description: Up to 1,200 alphanumeric characters may be input to describe a research project, educational program, organizations, or individual's interests and expertise. This field is mandatory.

Data Element: Descriptors
Mnemonic: DE
Description: A mandatory field of up to 500 alphanumeric characters (up to 20 descriptors) depicting both major and minor subjects appropriate to the record being entered. Terms must be chosen from the ERIC or NETWORK thesauri.

Data Element: Identifiers
Mnemonic: ID
Description: An alphanumeric field of up to 300 characters used to identify special subject concepts not appropriate for thesauri.

Data Element: Database File
Mnemonic: DB
Description: A mandatory three-character alphabetic designation indicating that the record is to be added to the human resources component of the NETWORK database. Therefore, the only entry will be DIR, although reference to any related materials represented in the BIB database will be made in field RM.

Data Element: Date Entered
Mnemonic: EN
Description: A mandatory field of six machine-generated numbers indicating the date the record was added to the database, in the format MMDDYY.

Data Element: Date Verified
Mnemonic: VF
Description: A minimum/maximum of six numbers which indicate the date we received verification that this record is accurately represented in the NETWORK database, in the format MMDDYY.

Print Formats. Like the NETWORK Bibliographic File, the Human Resources Directory File offers the user a choice of two print formats. Format A (see Figure 3) will assist less experienced users by printing out the complete tag name. All tag names will end at the same column so that they appear flush right upon printout, followed by a colon and two spaces. The system will suppress printout of fields which have no input for a particular record. For instance, a record input from a Department of the Army (DA) Form 1498 has no Person in Charge, so field PC would not print out. Further, all lines of type will be moved up to replace any intervening blank lines that would otherwise be left due to unfilled fields. The printout will be single-spaced within each data element and double-spaced between each data element.

Format B (see Figure 4) will print out the two-letter mnemonics for each tag name, flush left. Otherwise, printouts will be identical to that of

Figure 3
Print Format A
Human Resources Directory File

ACCESSION NO: HR00045.

TITLE: Evaluation of Basic Skills Education Program.

PROGRAM AREA: 63743A; 3346.

STARTING/ENDING DATES: 801001;860200.

PERFORMING AGENCY: DA Army Research Inst for the Beh & Soc Sci Curricula & Evaluation Team; 5001 Eisenhower Ave, Alexandria VA 22333.

RELATED MATERIALS: Reports: 2nd Qtr FBSEP II needs assessment and USAREUR evaluation; 3rd Qtr MOS Baseline Skills evaluation of materials developed under contracts with RCA, ASA, Perspective and FSU.

GOVT STATUS: Federal.

GRANT/CONTRACT NO: 20263743A791.

CONTACT PERSON/S: Dr. Rebecca Oxford-Carpenter; 202-274-5538.

SUPPORTING AGENCY: DA Army Rsch Inst for the Beh & Soc Sci, Instructional Technology Systems; 5001 Eisenhower Ave, Alexandria, VA 22333.

ABSTRACT: Objective: to develop and conduct evaluations of revised BSEP components, including MOS Baseline Skills, English as a second language, and learning strategies. To develop new techniques for evaluating performance based training and education systems. Approach: to design and apply a revised BSEP and its components. The methodology will take into consideration the adequacy of resources provided for BSEP implementation and the adequacy of design of instructional and delivery strategies. A quality control system will be developed to permit a continuing evaluation of on-going programs by ACES personnel. Progress: the task I report on BSEP review and program support was submitted and reviewed. FBSEP II needs assessment questionnaires were developed and approved.

DESCRIPTORS: FUNCTIONAL-LITERACY; EDUCATION-PROGRAM-EVALUATION; ADULT-EDUCATION; GROUP-INSTRUCTION; ENGLISH-SECOND-LANGUAGE.

IDENTIFIERS: UNITED-STATES-ARMY; BSEP.

DATABASE FILE: DIR.

DATE ENTERED: 830131.

Figure 4

Print Format B*
Human Resources Directory File

AN: HR00045.

TI: Evaluation of Basic Skills Education Program.

DA: 801001;860200.

CP: Dr. Rebecca Oxford-Carpenter; 202-274-5538.

SP: DA Army Rsch Inst for the Beh & Soc Sci, Instructional Technology Systems; 5001 Eisenhower Ave, Alexandria, VA 22333.

AB: Objective: to develop and conduct evaluations of revised BSEP components, including MOS Baseline Skills, English as a second language, and learning strategies. To develop new techniques for evaluating performance based training and education systems. Approach: to design and apply a comprehensive evaluation methodology for both the overall revised BSEP and its components. The methodology will take into consideration the adequacy of resources provided for BSEP implementation and the adequacy of resources provided for BSEP implementation and the adequacy of design on instructional and delivery strategies. A quality control system will be developed to permit a continuing evaluation of on-going programs by ACES personnel. Progress: the task I report on BSEP review and program support was submitted and reviewed. FBSEP II needs assessment questionnaires were developed and approved.

* User specified AN, TI, DA, CP, SP and AB data elements in print command.

Format A; that is, the mnemonic will be followed by a colon and two spaces; unfilled fields will be suppressed; and the printout will be single-spaced within each data element and double-spaced between each data element.

In addition to choice of print format, the user may choose which data elements s/he wishes to have printed out. For example, one may specify only the title, starting and ending dates, and abstract when giving the print command. Unless individual fields are requested, the system will default to full printout.

The NETWORK's Library Collection

Complementing the Bibliographic and Human Resources Directory Files of the computerized database is a small library of materials that focus on basic skills and continuing education issues of relevance to military educators. This set of materials is intended to support the NETWORK's information services and assist the NETWORK staff in the performance their daily tasks. The NETWORK's library collection is comprised of three major components. These are: a periodical collection, a book collection and card catalog, and a vertical file. Each of the components, discussed below, is intended to provide information and reference tools for the NETWORK staff.

Periodical Collection. This component of the library collection includes various journals and newsletters dealing with information topics of high interest to the NETWORK's primary and secondary user groups. The periodicals relate to such topics as educational research and technology, vocational education, military educational issues, and supplemental

information such as the newsletter of an online information service entitled Bibliographic Retrieval Services (BRS). These periodicals provide current information necessary for the NETWORK staff to keep abreast of educational innovations as well as the latest research findings to provide the best background information for the Inquiry Response and Referral Services. In addition, these journals can be used for original document retrieval for isolated installations which have no access to local libraries. Finally, this component of the NETWORK's library houses copies of the back issues of the NETWORK's publications which are used for reference and disseminated to users upon request. Materials included in this component of the library are arranged chronologically and shelved alphabetically. This allows for immediate retrieval of information by NETWORK staff.

Book Collection and Card Catalog. This component of the library contains two types of resource tools. These include books that are considered either a reference (FR) or bibliographic (BL) resource. Each book contained in the collection is listed in a Card Catalog for retrieval by project staff.

The reference portion of this collection is used to answer uncomplicated information requests or to aid in the daily tasks of the NETWORK staff. Examples include: dictionaries, thesauri, Government Printing Office Style Manual, United States Government Manual, and various directories. These reference tools are distinguished by a code beginning with the letters "RF" followed by five sequentially numbered digits. Also included in this reference collection area are uncataloged books such as telephone directories and reference manuals which are used internally.

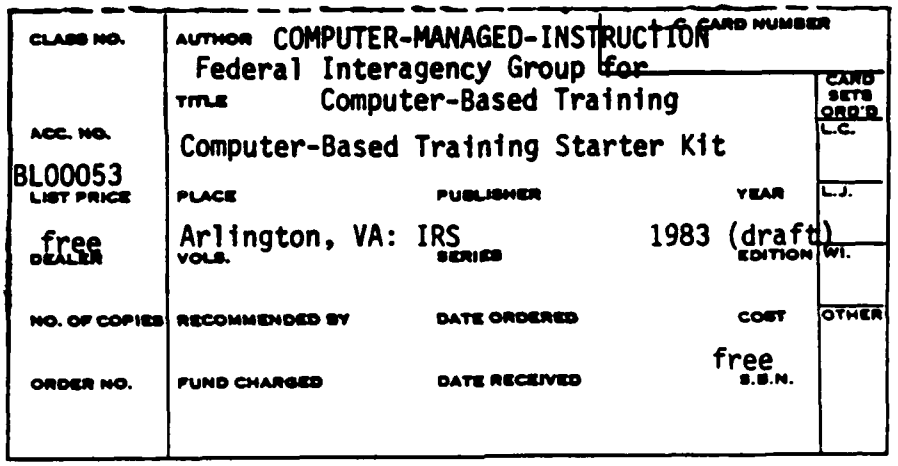
The bibliographical portion of the book collection contains those books on various educational topics of special interest to the NETWORK's user audience. The subjects of these books include: computer assisted instruction, adult education, and educational research. Each of the books in this collection has a code beginning with the letters "BL" followed by five digits which are sequentially numbered. These books are also referenced in the Bibliographic File of the NETWORK's database so that a customized computer search will indicate the books in the NETWORK's collection dealing with the topic in question. In special cases, these books may be loaned to users and to BSRC project staff.

As indicated above, the materials contained in the book collection are assigned a locator tag or code and then listed in a Card Catalog. The Card Catalog allows each book to be located by author, title, or subject. When a book is acquired, a Card Catalog slip is prepared listing the author, title, and subject as well as special NETWORK library code, publisher, publication date, International Book Serial Number (ISBN), and cost, if known. Copies of the completed slip are then filed alphabetically by author, title, and subject providing a cross-reference for all books contained in the collection. Figure 5 exhibits an example of a completed catalog slip used by the NETWORK staff.

Vertical File. This component of the NETWORK's library consists of several filing cabinet drawers containing ephemeral pieces of information. These materials are divided by subject and filed in alphabetical order.

Figure 5

Card Catalog Slip



Included are pertinent materials in the form of pamphlets, booklets, or brochures all of which will eventually become dated. These materials address a wide range of topics which include: workshops and conference dates and descriptions, new publication listings, vendor catalogs for various educational materials, information on software and hardware for computer-based instruction, and facts on resource materials for adult education.

III. INQUIRY RESPONSE AND REFERRAL SERVICES

The design plan for the operation of the Military Educators Resource NETWORK specifies the provision of several user information services. Two interrelated services offered by the NETWORK, the Inquiry Response Service and the Referral Service, are discussed in this section of the report. As the name implies, these services are designed to help the NETWORK's user groups answer questions that may arise in the course of their daily professional activities. For example, military educators/practitioners, as the primary user group of the NETWORK, are able to locate information about techniques or procedures for educational improvement. The NETWORK's secondary user group, researchers and administrators within the Department of the Army, use these services to obtain state-of-the-art and/or comprehensive information on a variety of topics to supplement their research, or to determine programs and practices being offered at installations as well as the means to contact the persons in charge for additional information.

Purpose

The Inquiry Response Service is designed to operate as a reference service assisting users in the identification and location of information. Using the NETWORK's database and library collection as well as related information sources, information is located and transmitted to users based on predetermined subject areas and descriptors. The Referral Service is intended to provide the user with a referral to an individual or organization that would most likely be able to respond to the user's request or provide additional detailed information.

The operational design for the Inquiry Response and Referral Services is influenced by two factors. First, access to services and communication links between the NETWORK and various military educators must be judged to be approximately equal. However, differences in communication style are recognized among individual installations and are apparent based on their geographical location (i.e., overseas or CONUS). Each installation has a different style of communicating with organizations which are outside the Army chain-of-command, such as the NETWORK. Many installations are very restrictive in both style and type of communication permitted outside this chain-of-command. In such installations, education personnel cannot communicate directly with outside organizations and are requested to direct communications through an ESO or their administrative officer to the Major Command(s) (MACOM) responsible for the installation. Communications are usually most restrictive when an error in judgement could effect the mission of the installation.

The second influencing factor guides the development of the NETWORK's computerized database. The subject areas addressed by the information citations contained in the database are identified on the basis of the topics of information requests received from the NETWORK's users. In this manner, the development of the database is generative in nature. The degree to which a greater number of military educators use the Inquiry Response and Referral Services, the greater the representativeness of the NETWORK's database. Limitations of access to the NETWORK's services or varying proportions of use of the services by particular installations or MACOMs raises concerns about the representativeness of the database. Both issues have been addressed through the data collected via the needs assessment and in the consideration of the types of sevices offered by the NETWORK.

These services also allow the NETWORK to function as a link between education centers and educational activities, both in military and non-military settings. As such the NETWORK is able to disseminate information that has been prompted by questions, thereby keeping education personnel well informed. As a depository of information inquiries, the nature of the questions received help the NETWORK determine what information is most important to retain for future dissemination. Additionally, potential problems can be identified by recognizing recurring questions and areas where help is consistently sought.

Together, these services are designed to provide information that is "reactive" to inquiries received from the NETWORK's target user population. A variety of strategies have been employed by the NETWORK staff to accurately record and respond to information requests. The operational procedures established for the processing of questions, the preparation of responses and the transmission of responses are delineated in the following sections.

Processing of Questions

Inquiries are received by telephone, by mail, and in person. A variety of strategies are utilized to locate information necessary to provide a proper response. The inquiry response process may involve searching the NETWORK's database files, searching commercially available databases, perusing the collection of materials contained in the NETWORK's library, sending one or more of the NETWORK's publications, or referring the inquirer to an appropriate point-of-contact.

An Information Request Form was designed to assist users in articulating their information needs. Users can complete and submit the form by mail or can refer to the form when telephoning the NETWORK with a request. The Request Form is also used by the NETWORK staff when recording inquiries received by telephone. The form, exhibited in Figure 6, serves as a guide to identify the data needed by the NETWORK's Information Specialist to provide the best possible response. The request form aids users in identifying the following items:

- o Key concepts related to their information needs,
- o How the information will be used,
- o Type of information the user is interested in, and
- o Required response format.

The reverse side of the Information Request Form is used to document the action that was taken in the preparation of a response to the user's information request. The completed forms are filed in alphabetical order by the requestor's last name and retained in case any follow-up on the same request is necessary. The completed forms are also used in-house to provide information for subsequent similar questions and used to compile evaluation statistics regarding the NETWORK's activities and use of services. Finally, the requestor's name and address information is used to generate and update the mailing list maintained by the NETWORK.

Log In. Regardless of how questions are initiated, the request is recorded in the Information Request Log. The Request Log, exhibited in Figure 7, maintains the following information:

- o Who recorded the request,
- o Total number of questions received to date,

Figure 6

MILITARY EDUCATORS RESOURCE NETWORK INFORMATION REQUEST FORM

Directions. Please provide the information outlined below in order that our response to your request may be as thorough as possible. Please complete one form for each topic.

Name _____

Position _____

Address _____

_____

_____

Phone _____

I. Requestor Profile. Are you a:

- ☐ Educator/Practitioner
- ☐ Researcher
- ☐ Administrator/Policymaker
- ☐ Other (describe) _____

_____

How did you learn about The NETWORK? _____

How many times have you used our services? ☐ first time ☐ 2-5 times ☐ 6 or more

II. In the space below, describe your request in narrative form.

III. Describe the subject of your request in 3 or 4 precise terms (e.g., reading skills, computer assisted instruction, adult literacy, etc.).

_____ _____ _____ _____

IV. Are you interested in:

- ☐ Locating large quantities of references on this topic? (How many? _____)
- ☐ Finding a few of the most current references?
- ☐ Finding a few of the "best" items?
- ☐ Being added to mailing list?

V. What forms of information interest you?

- ☐ Citations and abstracts of research papers and journal articles, covering the years from _____ to _____.
- ☐ Current research project summaries.
- ☐ Education program descriptions.
- ☐ Referral to other sources of information (persons to contact).

VI. Please describe how you plan to use the information we provide, and provide us with any other information that may help us understand your request.

Figure 6 (Continued)
Information Request Form

STAFF USE ONLY

Request No. _____ Phone _____ Date Received _____
Written _____ Date Responded _____
Other _____

ACTION TAKEN:

- ☐ Telephone Response
- ☐ Written Response (attach copy)
- ☐ Database Searched _____
- ☐ Referrals to: _____
- ☐ MERN Publications Sent
- ☐ Mailing List: add chg dlt
- ☐ MERN Brochure Sent
- ☐ Materials Sent: _____
- ☐ Memo or Letter (attach copy)
- ☐ Search Results (attach copy)
- ☐ Copy from MERN Collection
- ☐ Other _____

COMMENTS: _____

SEARCH STRATEGY

Figure 7
Information Request Log

Rcv'd by	Inq.#	Date	Requestor name address & phone	Request	Contacted by: phone	mail	other	Date followed up	Materials sent

- Date the inquiry was received,
- Requestor's name and address,
- Nature of the request,
- Method of contact,
- Date followed up, and
- Type of information provided.

The log furnishes a simple way to monitor information requests. In addition, the Request Log enables the NETWORK staff to maintain basic statistical data about the Inquiry Response and Referral Services. The statistical summaries that can be generated from the form include:

- Number of information requests processed,
- User's position and military service affiliation,
- Mode of contact,
- Type of request and response format, and
- Response turnaround time.

Response Processing

Based on the information obtained from the user and recorded on the Information Request Form, a determination is made on the appropriate method to be used to best answer the inquiry. As noted previously, there are several strategies from which to choose. One of the most useful resources offered by the NETWORK is the availability of various computerized databases. These resources and others utilized in the preparation of information responses are discussed below.

Military Educators Resource NETWORK Database. The NETWORK's computerized database has been described in detail in the previous section of this report. This specialized in-house database is comprised of two distinct files: a Bibliographic File and a Human Resources Directory File. If determined that the requestor can benefit from information contained in journal articles and/or research papers, the Bibliographic File will be searched. This portion of the database contains a collection of citations of the most current or comprehensive articles and papers from the Educational Resources Information Center (ERIC) and National Technical Information Service (NTIS) databases dealing with topics of most interest to military educators. This file provides citations which are specially formatted (see Figures 1 and 2) to give users a quick and easy way to read a synopsis of what information exists on their subjects.

The citation also provides a guide to locating the original document through a library. For those users who have limited access to a local library, a cover letter is included with the search results giving detailed instructions on alternate document retrieval. In addition, the NETWORK is always available to facilitate the acquisition of original documents if no other method exists.

A search of the Bibliographic File is begun by checking the key words used by the inquirer to describe his or her information need. The NETWORK Thesaurus is then checked to see which descriptive words most closely describe the subject. By checking for materials which contain these key words via a computer terminal, pertinent citations can be located, printed out and sent to the user. To make the search more complete, words other than those in the NETWORK Thesaurus can be used in a free text search of the abstract portion of the citation to locate additional information.

If a requestor can benefit from information about ongoing education programs or research efforts, the Human Resources Directory File will be searched. This portion of the NETWORK's database serves several important functions. First, it provides a link to education personnel and programs in operation at various education centers. Abstracted in this database file are responses to a questionnaire sent to all Army Continuing Education Centers (ACES). Each abstract contains information such as: type of computer equipment available at the installation; types of educational programs that have been developed; MOS training provided; and any BSEP, ASEP, and ESL programs offered on or off base and their frequency. This information including the name of the installation's ESO or other persons to contact as well as the complete address of the installation can be printed out and sent to the requestor on specially formatted citations (see Figures 3 and 4) similar to those of the Bibliographic File.

Second, the Human Resources Directory provides referrals to points-of-contact specializing in a variety of areas of particular interest to military educators. Examples include information on where to send for military-related publications, a listing of installations providing courses on military procedures, the names of companies which provide various evaluation services, and other miscellaneous references. The information included in the Human Resources Directory File is identified primarily through research for answers to inquiries and is continually augmented as pertinent references are found.

Third, this file contains descriptive information about on-going military research projects. In addition to a description of the research study, points-of-contact are specified. Having access to this portion of the

NETWORK's database allows military educators to become cognizant of the areas in which research is being conducted. In some cases, this file has been the only source of information available on a particular subject.

In addition to the two in-house database files, a search can involve a number of commercially available databases depending upon the scope of the question. Searching techniques are similar to those used for the NETWORK's database. Using a computer terminal, such as a Texas Instrument Silent 700, a subject not covered in-house can be searched and a print out of the results can be produced. If appropriate, the citations retrieved from these searches will be formatted and included in the NETWORK's database. Thus, only pertinent topics generated from actual military educators' inquiries are selected for inclusion in the NETWORK's database.

In some cases, answers can be found by checking the NETWORK's library collection which contains a vertical file, periodical collection, and book collection. The vertical file contains ephemeral pieces of information of interest to educators such as vendor brochures pertaining to computer software and hardware, educational publications and testing materials. In addition, the vertical file contains information on conferences, newsletters and listings of other library collections. The NETWORK staff continually update this file to keep military educators more informed and to provide support for the NETWORK's Current Awareness Service.

The periodical collection is comprised of various educational journals of interest to the NETWORK's target population. These periodicals serve the dual purpose of keeping the NETWORK staff informed of educational developments which can be shared with NETWORK users as well as being a reference tool for responses to inquiries.

Finally, the library contains a collection of books on numerous educational topics which are useful for inquiries and general reference purposes. These books are also cited in the Bibliographic File so that a search will indicate the books in the library that address the topic in question. On rare occasions, books may be loaned to users in response to an inquiry.

In the event that a question involves the need for information not available in the NETWORK's library collection, a trip to an appropriate library is made. This action may be one of several steps taken to provide a proper response. The types of requests which prompt this action include the need for information obtained by reviewing large software directories, locating independent study sources for military personnel trying to complete degrees, and other miscellaneous requests involving reference material not contained in the NETWORK's library.

Some of the users contacting the NETWORK request information about the NETWORK's services and/or request specific copies of the NETWORK's publications. In this event, previous NETWORK publications are sent to the requestor which more fully explain the NETWORK's purpose and provide examples of the type of information available through the NETWORK. Additionally, the name and address of the inquirer is included in the mailing list.

All the preceding methods of processing information requests can be used independently or in combination depending upon how the user can best be served. The methods employed are selected by the NETWORK's Information Specialist based primarily on the type of information requested. The final

step in the response procedure is to determine the most appropriate method of contacting the requestor with the response. If the question can be answered simply, a telephone call is made both to expedite supplying the information to the user as well as to efficiently use the time of the Information Specialist. In many cases, however, the only way to respond to an inquiry is by mail, including a personal letter providing the necessary information and/or sending relevant materials.

Log Out. After a request has been properly responded to, the Information Specialist notes the completion of a request by indicating on the Information Request Log the date the information was provided or sent, the method of response, and materials provided. This completed log serves as a reference tool for evaluation purposes, providing pertinent information about requests received in an easy-to-read, accessible format. The name of the requestor is then checked against the NETWORK's mailing list, and, if necessary, added to the list. Finally, copies of any correspondence and materials sent are stapled together with the Information Request Form and the request is filed under the requestor's last name.

IV. PUBLICATION DEVELOPMENT AND DISSEMINATION SERVICE

A major consideration in the identification of services to be offered by the NETWORK was the need to provide a mechanism that allowed for the proactive dissemination of information and also served to stimulate user requests. This concern was clearly identified in the synthesis of the needs assessment data and was fully addressed in the operational design plan through the provision of the Publication Development and Dissemination Service. The objectives established for this service were: (a) to promote the NETWORK services and (b) to disseminate important new information in the area of adult and continuing education.

Four types of publications are provided through this service. These include: a brochure, a rolodex card, a newsletter, and fact sheets. The operational design associated with each of these publications is described in this section of the report. In addition, copies of all major publications developed by the NETWORK staff are included in the appendices.

Brochure and Rolodex Card

A descriptive brochure was developed by the NETWORK staff in order to (a) identify for the user population, the purpose and objectives established for the NETWORK, (b) publicize and explain the services offered by the NETWORK, and (c) inform users how to effectively contact and use the NETWORK. A copy of the brochure, developed by the NETWORK staff, is exhibited in Appendix E. Specifically, the brochure was designed to provide the following information:

- o A description of the mission of the NETWORK,
- o Identification of the NETWORK's target population,
- o Description of the NETWORK's services and information products, and
- o Procedures for accessing the NETWORK.

Copies of the brochure were printed and disseminated to all Army Continuing Education Centers. In addition, throughout the operational period of the NETWORK, copies of the brochure have been provided to users in response to requests for additional information about the NETWORK, distributed to conference participants where the NETWORK staff participated as a resource center, and disseminated with general correspondence as well as through related promotional activities.

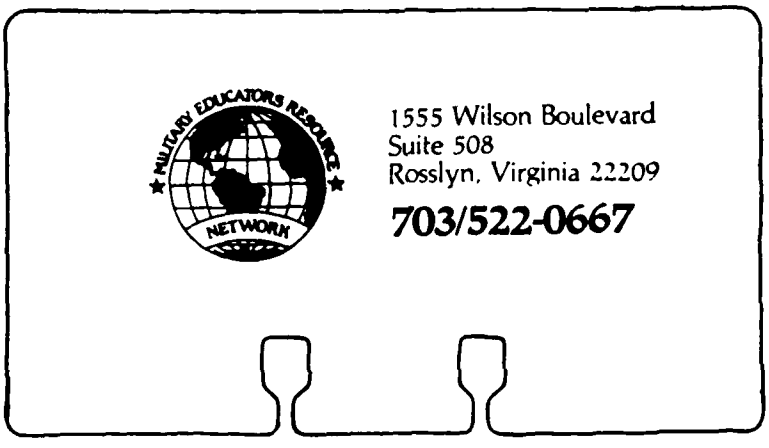
An additional promotional tool, disseminated in conjunction with the brochure, is a rolodex card. The card resembles a business card that contains the NETWORK's logo, name, address and telephone number. The printed card, exhibited in Figure 8, has small slots punched in the bottom to allow the card to be used in a standard-sized rolodex file.

Newsletter

Under the direction of the NETWORK's Publication Manager, a quarterly newsletter entitled the NETWORK Circuit has been developed. The purpose of the newsletter is to provide a variety of new information to the NETWORK's target population that would assist them in the conduct of their daily professional activities. The newsletter serves as a tool for regularly communicating information about educational resources, research and other news to military educators.

Figure 8

NETWORK Rolodex Card



The general design of the newsletter includes feature articles about current educational programs, (e.g., news about the educational reform movement, and the veteran's educational assistance programs); a Research Corner containing articles about ongoing research activities sponsored by the military (e.g., news about computerized guidance systems and the development of learning strategies educational materials); a Resources Column highlighting new and existing resources on special topics that represent recurring requests posed to the NETWORK; and informative news about the NETWORK's services. Other news items considered for inclusion in the newsletter include:

- Reviews of educational books,
- Descriptions of model military educational programs,
- A questions and answer column where users submit problems they have encountered and where innovative solutions are provided, and
- A reader's exchange corner where educators having common education interests can trade information.

Throughout the pilot operational period of the NETWORK, four newsletters have been developed. Copies of the newsletters are exhibited in Appendix F in order to provide examples of the articles and information contained in the newsletters as well as to illustrate the graphical designs utilized in this publication.

A working draft of each issue is first prepared and submitted for technical review and approval. Once approval is received, the newsletter is typeset and a graphic layout is completed in preparation for printing. Copies of the newsletter are then printed on quality bond paper and disseminated to all individuals listed on the NETWORK's mailing list. Additional copies are maintained by the NETWORK to use in response to requests for copies of

the newsletter or used to respond to information requests related to the subject(s) addressed in this publication.

Fact Sheets

This NETWORK publication is designed to provide a synopsis of the most important aspects of a particular topic. This format is believed to be extremely well-suited to military educators because of its concise style and the resource information included with the synopsis. This publication has been simply entitled the NETWORK Fact Sheet.

Three fact sheets were prepared over the operational phase of the NETWORK. Copies of each issue are exhibited in Appendix G to demonstrate the graphic format of the fact sheets and to highlight the type of information provided through this publication. The topics of the three fact sheets developed under the direction of the NETWORK's Publication Manager included: "Computer Literacy and the Army Educator," "The NETWORK Inquiry Response Service," and "Evaluating Instructional Software." Topics for the fact sheets are selected by the NETWORK staff based on the subject areas of recurring information requests.

Each issue is designed to contain a brief information summary or abstract as well as a list of resources that can be consulted for additional information on the topic. A working draft is prepared and submitted for technical review and approval. Once approval is received, the fact sheet is typeset and a graphic layout is completed in preparation for printing. An appropriate number of copies is printed to allow copies to be distributed to all individuals listed on the NETWORK's mailing list and to use to respond to information requests.

V. CURRENT AWARENESS SERVICE

The Current Awareness Service offered by the Militray Educators Resource NETWORK has been designed to distribute, on a regular basis, information about new resources or advances in the adult basic skills and continuing education field. This service is also intended to provide a link between the NETWORK's Inquiry Response and Referral Services and the Publication Development and Dissemination Service. As previously discussed, the former set of services transmits information in response to questions or requests received from users, while the publication service responds to the predicted information needs of the NETWORK's target population. Thus, through the publication service, information is synthesized and distributed in a "proactive" manner rather than "reactive" to a specific information request.

Two current awareness activities undertaken by the NETWORK staff serve to provide the functional links between the NETWORK's other services. These activities are: the development and distribution of the NETWORK Vanguard; and the offering of the NETWORK Profiles Service. Together these activities keep the NETWORK's user population abreast of current information in the education field as it relates to military education programs. The operational procedures related to each activity are discussed in detail in this section of the report. In addition, copies of related publications are provided in the appendices.

NETWORK Vanguard

Interview and questionnaire data obtained through the conduct of the needs assessment indicated that military educators desired to be kept abreast of current information in their professional field. In order to address this particular need, the NETWORK staff believed that information related to current articles published in professional journals would serve to highlight and bring to the attention of military educators new resources and findings in the adult education field. Thus, the NETWORK Vanguard publication was planned.

This publication contains photocopies of the tables-of-contents of key journals in the education field that are considered to be of special interest to military educators. In addition, each issue contains instructions on how to obtain copies of the listed articles through the educator's post library or by requesting reprints from the journal or author.

A cadre of professional journals are continually reviewed by project staff in order to select the most appropriate tables-of-contents to be published in the NETWORK Vanguard. The journals that are reviewed and/or maintained by the NETWORK are listed in each issue of the NETWORK Vanguard which is disseminated quarterly. A camera-ready version is prepared by the NETWORK's Publication Manager and submitted for off-set printing. An appropropriate number of copies is produced in order to conduct a complete mailing to all individuals listed on the NETWORK's mailing list and to maintain additional copies for use in response to requests. Four issues of the NETWORK Vanguard have been developed under the direction of the NETWORK's Publication Manager. Copies of each issue are exhibited in Appendix H.

NETWORK Profiles Service

The second current awareness activity entails the development and pilot testing of the NETWORK Profiles Service. This activity provides a select set of Army educators with the most recent information related to the individual educator's pre-stated information interests. This customized service involves creating a profile and matching the profile on a periodic basis against new citations contained in the NETWORK's computerized database. Thus, educators periodically receive information about current research efforts, publications, and/or other resources that match their pre-stated profile.

The specific type of information received is determined by the topics the participants indicate are of special interest to them. The topics are identified by asking the participant to complete a one-page checklist. The NETWORK Profiles Checklist, exhibited in Figure 9, contains a list of educational topics from which the participant is to select four topics of professional interest to them. The completed profiles are then used to identify citations in the NETWORK's database that match the educator's profile. Once the citations are identified, a computer printout is prepared and sent to the individual. A specialized printout is prepared periodically as the database is updated.

This current awareness service automatically provides participants with current information that can be utilized by the individual in the undertaking of his or her professional activities. Preparation of responses and the dissemination of information are not based on the receipt

Figure 9

NETWORK PROFILE CHECKLIST

I. From the list provided below, please select four (4) topics or subject areas that are of primary interest to you and that would be beneficial to you in the operation of the educational programs offered at your installation.

Education

- ☐ Audiovisual courseware evaluations
- ☐ Audiovisual equipment evaluations
- ☐ Basic skills curricula, instructional materials and tests
- ☐ Computer-assisted instruction
- ☐ Curriculum development
- ☐ Curriculum evaluations
- ☐ Educational achievement levels
- ☐ Educational research
- ☐ Functional basic skills, including job-related training, occupational planning, functional literacy and evaluation techniques
- ☐ Individualized instruction
- ☐ Instruction design
- ☐ Literacy standards
- ☐ Psychology of learning
- ☐ Quality assurance for adult programs
- ☐ Self-paced instructional programs
- Specific skills:
  - ☐ Computation
  - ☐ ESL
  - ☐ Listening
  - ☐ Reading
  - ☐ Writing
  - ☐ Psychomotor
  - ☐ Daily life coping
- ☐ Teacher evaluation
- ☐ Teaching methods
- ☐ Tests and measurements
- ☐ Tuition rates
- ☐ OTHER (specify): _____

Counseling

- ☐ Career maturity
- ☐ Career planning and guidance
- ☐ Civilian labor force market data
- ☐ Computer-based guidance systems
- ☐ Counseling methods
- ☐ Cross-cultural counseling
- ☐ Information of colleges, vocational schools and other educational institutions
- ☐ OTHER (specify): _____

Management

- ☐ Contracting requirements
- ☐ Economic analysis: cost-benefit analysis: effectiveness analysis
- ☐ General management skills
- ☐ Marketing educational programs
- ☐ Needs assessment techniques
- ☐ Program and curriculum evaluation techniques
- ☐ Research methods
- ☐ OTHER (specify): _____

Government/Military Information

- ☐ Demographic data
- ☐ Directives and regulatory information
- ☐ Federal budget appropriations
- ☐ Research and programs in other Army installations
- ☐ Research and programs in other branches of the military
- ☐ State educational agencies policies: educational requirements; legal issues
- ☐ OTHER (specify): _____

Computer Systems

- ☐ Computer equipment evaluations
- ☐ Computer systems compatibility
- ☐ Computer systems evaluation
- ☐ Software evaluations
- ☐ OTHER (specify): _____

II. What types of information best suit your needs? (Check all that apply)

- ☐ Bibliographies with abstracts
- ☐ Newsletters
- ☐ Research summaries
- ☐ Referrals
- ☐ Notices of conferences, workshops, and meetings
- ☐ Other (specify): _____

III. Please provide the information requested below:

NAME: _____

TITLE: _____

MAILING ADDRESS: _____

TELEPHONE NUMBER: _____

PT5551

of a request, but rather the response is "proactive" and designed to keep the individual abreast with current developments in the field.

This service was initiated as a pilot effort during the initial operational phase of the NETWORK. A sample of approximately twenty overseas education personnel were asked to participate in this effort because it was believed that overseas military educators are generally more isolated than CONUS personnel. Their involvement in the pilot test did not preclude their use of the other NETWORK services.

VI. SUMMARY

The Military Educators Resource NETWORK has been in operation since March 1982. During this phase of operation, the NETWORK staff have been able to pilot test the information services offered by the NETWORK. These include: the Inquiry Response and Referral Services, the Publication Development and Dissemination Service, and the Current Awareness Service. This report documents the operational procedures associated with each of the services. This descriptive information is intended to facilitate the continued operation of the NETWORK following the completion of the pilot test.

The foundation of the NETWORK's information services is a collection of materials that relate to adult basic skills and continuing education issues and that represent the information needs of the NETWORK's user groups. The collection of materials is maintained by the NETWORK's computerized database and library collection. The computerized database contains two components: a Bibliographic File and a Human Resources Directory File. File specifications and print formats associated with each file are highlighted. The function of the three components of the NETWORK library, that is, the periodical collection, book collection and card catalog, and a vertical file, are described. Related procedures and operational forms are specified for each component. The report discusses the purpose and function of each of the NETWORK's information services. In addition, the links between the NETWORK's services and database/library collection are iterated. The Inquiry Response and Referral Services provide a mechanism for the dissemination of information that meets the expressed needs of users. Request processing and response preparation procedures are identified and specific examples of processing forms and request logs are provided.

In order to provide a vehicle for the proactive dissemination of information that would assist the NETWORK's target user groups in their daily professional activities as well as encourage users to utilize the NETWORK's services, a Publication Development and Dissemination Service is offered. This service includes the preparation and distribution of a brochure and rolodex card, a newsletter and fact sheets. Organizational design considerations for each publication are provided. In addition, copies of the quarterly newsletter, the NETWORK Circuit, and the NETWORK Fact Sheet are exhibited to illustrate the graphic design and information content of these publications.

Finally, two activities offered through the Current Awareness Service designed to provide functional links between the NETWORK's other services are described in detail. These activities include: (a) the development and distribution of the NETWORK Vanguard, a publication that provides proactive information about current professional journal articles, and (b) the "NETWORK Profiles Service" which provides customized information to military educators. Both activities provide, on a regular basis, proactive information about new resources or advances in education. The report highlights the operational procedures associated with these activities and exhibits related publications.

As noted, this report provides a full description of the NETWORK's operational procedures. The documentation provided through this report serves to enhance the continued operation of the NETWORK following the completion of the pilot test of the NETWORK's operational design. Specific evaluative information gathered during this operational phase will be synthesized and summarized in the final report of the BSRC information component currently in preparation by project staff.

REFERENCES

Russo, R. P., Rivera, C., DeCarme, J., & French, A. Basic Skills Resource Center: Information Component Needs Assessment Report. Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences (RN 85-50)

Rivera, C., Russo, R. P., & DeCarme, J. Basic Skills Resource Center: Military Educators Resource NETWORK Design Plan. Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences (RN 85-66)

APPENDIX A

NETWORK Bibliographic File Specifications

APPENDIX A

Military Educators Resource NETWORK
Bibliographic File Specifications

Record Code:

*FS	*FL	Description Marc	Tag Name	Field Length Min	Max	*Mode	*SL	*DE	Index
**1	AN	Ø9Ø	ACCESSION NUMBER	7	7	T/I	7	-	Y
2	AU	1ØØ	PERSONAL AUTHOR	Ø	15Ø	T	25	;	Y
3	CA	11Ø	CORPORATE AUTHOR	Ø	15Ø	T	5Ø	;	Y
4	MA	111	CONFERENCE AUTHOR	Ø	3ØØ	T	5Ø	;	Y
**5	TI	245	TITLE	1	15Ø	T	25	;	Y
**6	TP	245	PUBLICATION TYPE	1	2Ø	I	1Ø	;	Y
7	SE	49Ø	SERIES STATEMENT	Ø	75	T	25	;	-
8	DA	26Ø	PUBLICATION DATE	ø	6	I	6	-	Y
9	PU	26Ø	PUBLISHER	Ø	75	T	-	;	-
**10	LA	Ø41	LANGUAGE	3	3Ø	T	3Ø	;	Y
**11	PD	3ØØ	PHYSICAL DESCRIPTION	1	3ØØ	I/T	-	;	-
12	AV	265	AVAIL-ABILITY	Ø	3ØØ	T/I	-	;	-
13	PR	Ø2Ø	PRICE AND ORDER NO(s)	Ø	6Ø	I/T	-	;	-
**14	GV	ØØ8	GOVERNMENT STATUS	1	1Ø	T	1Ø	-	-
15	GN	Ø86	GOVERNMENT DOC. NO.	Ø	2Ø	T/I	-	-	-
16	AE	7ØØ	PERSONAL ADDED ENTRY	Ø	15Ø	T/I	25	;	Y
17	CE	71Ø	CORPORATE ADDED ENTRY	Ø	2ØØ	T	5Ø	;	Y
18	ME	711	CONFERENCE ADDED ENTRY	Ø	3ØØ	T/I	5Ø	;	Y
19	NT	5ØØ	NOTE	Ø	5ØØ	T/I	-	-	-
**20	AB	52Ø	ABSTRACT	1	16ØØ	T/I	-	-	-
**21	DE	69Ø	DESCRIPTORS	1	5ØØ	T/I	5ØØ	;	Y

*FS = Field Sequence; *FL = Field Label; *Mode (T = Text, I = Interger);
*SL = Sort Length; *DE = Delimiter; **Mandatory Field

APPENDIX A

Military Educators Resource NETWORK
Bibliographic File Specifications

Record Code:

*FS	*FL	Description Marc Tag	Name	Field Length Min	Max	*Mode	*SL	*DE	Index
22	ID	69Ø	IDENTIFIERS	Ø	3ØØ	T/I	3ØØ	;	Y
**23	DB	-	DATABASE FILE	3	3	T	-	-	Y
**24	EN	-	DATE ENTERED INTO DB	6	6	I	-	-	-
25	VF	-	DATE VERIFIED	Ø	6	I	-	-	-

*FS = Field Sequence; *FL = Field Label; *Mode (T = Text , I = Interger)
*SL = Length; *DE = Delimiter; **Mandatory Field

APPENDIX B

Bibliographic File Work Form

APPENDIX B

Bibliographic File Work Form

TAG NAME	CODE	TAG	IN.	SUBFIELDS
*ACCESSION NO:	AN	Ø9Ø	⊬ ⊬	$a
AUTHOR: (surname, first name; title.)	AU	1ØØ	1 Ø	$a $c
CORPORATE AUTHOR: (name; subordinate unit/s.)	CA	11Ø	2 Ø	$a $b
CONFERENCE AUTHOR: (name; place; date; subordinate unit/s; miscellaneous info.)	MA	111	2 Ø	$a $q $d $e $g
*TITLE: title proper: subtitle/parallel title.)	TI	245	1	$a $b
*PUBLICATION TYPE	TP	245	⊬ ⊬	$h
SERIES: (series statement; volume or number/ ISSN.)	SE	49Ø	1 ⊬	$a $v $x
PUBLICATION DATE: (YYMMDD)	DA	26Ø	⊬ ⊬	$c
PUBLISHER: (place; publisher.)	PU	26Ø	⊬	$a $b
*LANGUAGE/S:	LA	Ø41	⊬	$a
*PHYSICAL DESCRIPTION: (pages; illustration, etc.; dimensions; related material.)	PD	3ØØ	⊬ ⊬	$a $b $c $e
AVAILABILITY:	AV	265	⊬ ⊬	$a
PRICE/ORDER NO: (price. ISBN, ERIC or NTIS order no.)	PR	Ø2Ø	⊬ ⊬	$c $a

*Mandatory field

TAG NAME	CODE	TAG	IN.	SUBFIELDS
*GOVT STATUS:	GV	ØØ8	♭ ♭	$a
GOVT DOC NO:	GN	Ø86	Ø ♭	$a
ADDED ENTRY: (personal name: title; how related to work.)	AE	7ØØ	1 Ø	$a $c $e
CORPORATE ADDED ENTRY: (name; subordinate unit/s; how related to work.)	CE	71Ø	3 Ø	$a $b $e
CONFERENCE ADDED ENTRY: (name; place; date; subordinate unit/s; miscellaneous info.)	ME	711	2 Ø	$a $q $d $e $g
NOTE:	NT	5ØØ	♭ ♭	$a
*ABSTRACT:	AB	52Ø	♭ ♭	$a
*DESCRIPTORS:	DE	69Ø	♭ ♭	$a
IDENTIFIERS:	ID	69Ø	♭ ♭	$a
*MERN DATABASE:	DB			BIB
*DATE ENTERED:	EN			
DATE VERIFIED	VF			

*Mandatory field

APPENDIX C

NETWORK Human Resources
Directory File Specifications

APPENDIX C

NETWORK Human Resources Directory

File Specifications

Record Code:

*FS	*FL	DESCRIPTION	Field Length Min	Max	*Mode	*SL	*DE	Index
**1	AN	Accession Number	7	7	T/I	7	-	Y
2	PC	Person in Charge	0	150	T/I	25	;	Y
**3	TI	Title	1	150	T/I	25	;	Y
4	TP	Program Area	0	50	T/I	-	;	-
5	DA	Start/End Dates	0	13	I	6	;	Y
6	PO	Performing Agency	0	200	T/I	50	;	Y
7	LA	Language/s	0	30	T	30	;	Y
8	RM	Related Materials	0	300	T/I	-	;	-
9	TA	Target Audience	0	300	T/I	-	;	-
10	PR	Appropriations	0	50	T/I	-	;	-
**11	GV	Governement Status	1	10	T	-	-	-
12	GN	Grant/Contract Number	0	100	T/I	-	;	-
13	CP	Contact Person/s	0	150	T/I	25	;	Y
14	SP	Supporting Agency	0	200	T/I	50	;	Y
15	NT	Note	0	500	T/I	-	-	-
**16	AB	Abstract	1	1200	T/I	-	-	-
**17	DE	Descriptors	1	500	T/I	500	;	Y
18	ID	Identifiers	o	300	T/I	300	;	Y
**19	DB	Database	3	3	T	-	-	Y

*FS = Field Sequence; *FL = Field Label; *Mode (T = Text, I = Interger); *SL = Sort Length; *DE = Delimeter; **Mandatory Field

APPENDIX C

NETWORK Human Resources Directory

File Specifications

*FS	*FL	Description	Field Length Min	Max	*Mode	*SL	*DE	Index
**20	EN	Date Entered	6	6	I	6	-	Y
21	VF	Date Verified	0	6	I	-	-	-

*FS = Field Sequence; *FL = Field Label; *Mode (T = Text, I = Integer); *SL = Sort Length; *DE = Delimeter; **Mandatory Field

APPENDIX D

Human Resources Directory File Work Form

Human Resources Directory File Work Form

TAG NAME	CODE
*ACCESSION NO:	AN
PERSON IN CHARGE: (name; title; address; phone no.)	PC
TITLE: (main title; subtitle.)	TI
PROGRAM AREA:	TP
DATES: (starting; ending.)	DA
PERFORMING AGENCY: (name; address.)	PA
LANGUAGE/S:	LA
RELATED MATERIALS:	RM
TARGET AUDIENCE:	TA
APPROPRIATIONS:	PR
*GOVERNMENT STATUS:	GV
GRANT/CONTRACT NO:	GN
CONTACT PERSON: (name; title; address; phone no.)	CP
SUPPORTING AGENCY: (name; subordinate unit/s; address.)	SP

*Mandatory fields

Human Resources Directory File Work Form

TAG NAME

NOTE: (status of project/ program; any automated databases of organization etc.)	
*ABSTRACT (project/ program description, areas of expertise, etc.)	AB
*DESCRIPTORS:	DE
IDENTIFIERS:	ID
*MERN DATABASE:	DB
*DATE ENTERED:	EN
DATE VERIFIED:	VF

*Mandatory field

APPENDIX E

NETWORK Brochure

APPENDIX E
NETWORK Brochure

WHAT IS THE MILITARY EDUCATORS RESOURCE NETWORK?

If you are an educator, researcher, or administrator within the Department of the Army, the Military Educators Resource Network—referred to as the NETWORK—is your access to information resources and services. The NETWORK enhances the Army's educational programs by linking Military Educators throughout the world. The NETWORK's services and products help Military Educators stay abreast of current and developing resources in adult basic skills education.

WHO DOES THE NETWORK SERVE?

The NETWORK's resources are available, free of charge, to all personnel within the Department of the Army. Specifically, the NETWORK is intended to serve:

- Army Education Services Officers
- Education staff of major commands
- Military researchers
- Staff within the Education Directorate of The Army's Adjutant General's Office

WHAT ARE THE NETWORK's SERVICES?

Computerized Database The NETWORK's computerized database contains the latest information in basic skills education and research as well as descriptions of various educational programs at Army installations. Citations and abstracts of the documents collected by the NETWORK are incorporated into a computerized database. This database is regularly updated to help you keep track of the rapidly expanding literature on adult basic skills education.

Included in the database are descriptions of:

- Basic skills curricula, instructional materials, and tests in the areas of listening, reading, writing, computation, and English as a Second Language (ESL).
- Instructional plans, in the areas of learning strategies and self-paced instructional programs.
- Computer-assisted instruction, computer literacy materials, and evaluations of equipment, software, and systems.

Inquiry Response Service The NETWORK's inquiry response service provides assistance to requests received by telephone and mail. Depending on the type of request, a response will be provided immediately or within three to five working days. The NETWORK's staff will identify resources from the computerized database and other available resources to provide a rapid response to your questions. Database searches, customized to your specific needs, will produce an annotated listing of relevant documents.

Telephone requests may be made between 9:00 a.m. and 4:30 p.m. eastern time at 703/522-0667. For your convenience and the convenience of overseas users, a telephone message service provides twenty-four hour access to the NETWORK.

Document Referral Service The NETWORK's document referral service will advise you where to obtain information and assist you in locating documents useful in researching a particular area or topic.

POC Referral Service To ensure the most complete response possible, the NETWORK will, in some cases, supplement the information services or sources by providing Points of Contact (POC) for military research and educational programs.

WHAT ARE THE NETWORK's INFORMATION PRODUCTS?

The NETWORK produces two publications, free of charge, in order to enhance the awareness of current developments in adult basic skills education.

MERN Circuit, a quarterly newsletter, features articles on the latest developments in basic skills education, a question/response column, an information exchange network, and updates on the NETWORK's services and resources.

MERN Factsheet, published intermittently, is a one-page discussion of a single key topic.

HOW DO YOU CONTACT THE NETWORK?

To access the NETWORK's services, to be placed on the mailing list, or for further information, write or call:

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, VA 22209
(703) 522-0667

E-4

The Military Educators Resource Network is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the Army Research Institute and The Adjutant General's Office (Contract No. MDA 903 82 C 0169). The NETWORK is operated by InterAmerica Research Associates, Inc. The views, opinions, and conclusions that are expressed in the NETWORK's documents are those of the BSRC staff and should not be interpreted as an official Department of the Army position, policy or conclusion unless so designated by other official documentation.

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, VA 22209

ARLINGTON VA.

BULK RATE
U.S. POSTAGE
PAID
ARLINGTON, VA
PERMIT NO. 595

MILITARY EDUCATORS RESOURCE NETWORK

Military Educators Resource NETWORK

APPENDIX F

Copies of the NETWORK Circuit

NETWORK CIRCUIT

Vol. 1, No. 1 July 1983

The NETWORK: Under Construction

"Good afternoon. Thank you for calling the NETWORK. May I help you?" If you hear these words, you will have contacted the Military Educators Resource NETWORK. Staff of the NETWORK are anxious to help you find the information you need quickly and also to chat with you about the continued development and refinement of the services the NETWORK has to offer.

Over a year ago, staff from the Army Research Institute (ARI), The Adjutant General's Office (TAGO) and InterAmerica Research Associates combined forces to plan a service designed especially for Army education personnel. The long-term goal established by this group was to enhance the Army's educational programs by *linking military educators throughout the world.* As of March 1983, the NETWORK opened its doors, thereby providing a link for military educators to share information and resources among themselves.

The first stones of the NETWORK's foundation were laid through an extensive needs assessment. Over a three month period, education personnel from Major Commands, various Army education centers, ARI, and TAGO shared their educational concerns in personal interviews, telephone conversations, and lengthy questionnaires designed to gather information about both what they have and what they need to operate effective educational programs. These discussions helped to shape the preliminary scope and direction of the NETWORK services. These insights have been used to initiate the development of services and a computerized directory or database of information about resources relevant to adult basic skills educational research and program development. A more detailed description of these services and the database itself is provided in an accompanying article in this newsletter.

Needs assessment, however, is an ongoing process. As new issues are brought to light, the NETWORK will continue to evolve to respond to your needs. The quality of the NETWORK's responses depends upon your participation and input. The concept of the NETWORK as a means of sharing information about resources demands a close relationship between this information center and you, the users and participants. Obviously, many of you are in the best position, through your work, to provide information that will help others with similar interests to keep up with constantly changing educational research and programs. Although the NETWORK is evolving to assist you much like a library reference service would, our interdependence makes it especially important that we get to know you, and that you get to know us.

The NETWORK staff have developed and distributed a brochure and rolodex card to explain the NETWORK's mission and services. If you haven't received them, let us know! If you are not yet on our mailing list or if your address label is wrong, complete and return the Mailing List Update Form provided in this newsletter.

The NETWORK's services are *free,* but there is one catch. Your suggestions and input are needed to develop further the NETWORK's services, and we encourage you to help us identify persons, materials, and resources which will enhance the operation of the Army's education programs. Write or call us — even if you are just curious.

Good afternoon. Thank you for calling the NETWORK. May we help you?

How to Contact the NETWORK

NETWORK staff are able to provide assistance in response to your telephone or mail requests. Telephone requests may be made between 9:00 a.m. and 4:30 p.m. Monday through Friday eastern time at (703) 522-0667. For your convenience and the convenience of overseas users, a telephone message service provides *twenty-four* hour access to the NETWORK. The NETWORK can also be accessed through the Pentagon switch at 695-0441. Requests may be mailed to the NETWORK staff at the following address:

Military Educators Resource NETWORK
1555 Wilson Boulevard, Suite 508
Rosslyn, Virginia 22209

NETWORK Services Provided To Meet Your Information Needs

The Military Educators Resource NETWORK is evolving to help military educators address the problems they encounter in their efforts to provide effective educational programs. The NETWORK also aims to keep Army educational professionals informed of current research and significant developments in the field. To meet these objectives, the NETWORK provides an inquiry response service, a Points of Contact (POC) referral service, a current awareness service, and a publications service. Each of these services revolves around the development of a specialized directory or database of information for the Army educator. This specialized database includes literature citations and resources relevant to adult basic skills education. The database has been com-

See Services page 2

FROM THE DIRECTOR

Dear Military Educator:

I am pleased to inform you of the services now offered by the Military Educators Resource NETWORK, a project sponsored by the Adjutant General's Office (TAGO) and the Army Research Institute for the Behavioral and Social Sciences (ARI). As you are aware, one of TAGO's responsibilities is to provide operational guidance to the Army Continuing Education System (ACES). Thus, over the past several months we have worked closely with a variety of Army education personnel, ARI, and InterAmerica Research Associates, Inc. in the initial formation of the NETWORK. Through discussions with these groups and the completion of a needs assessment, the NETWORK has been charged with assisting military educators in the development and improvement of the Army's education programs.

The NETWORK is designed to serve as a source of information about educational research and program development and is intended to aid military educators in the overall operation of the ACES programs, with emphasis on adult basic skills education. The services offered by the NETWORK are available to Army education staff free of charge.

It is important to recognize that the NETWORK is an evolving information service. Thus, your requests and input are needed continually to shape the information and products the NETWORK has to offer. Simply put, your feedback and identification of resources will assist in the continued development of the NETWORK, thereby serving changing needs of military educators.

The NETWORK will enhance the Army's educational programs by linking military educators throughout the world so that they may be able to stay abreast of developing resources in the field. This is accomplished by the creation of a computerized database which contains the latest information in adult basic skills education and research as well as descriptions of various educational programs operated at Army installations. When you contact the NETWORK staff with a particular request for information, they will provide you with a list of resources and referrals (points of contact) which will assist you in meeting your information needs. In addition, the NETWORK staff plan to publish periodically a newsletter and factsheet which will provide detailed information about new resources and discussions on educational topics.

I encourage you to contact the NETWORK and use its services, which are offered free of charge. I also encourage you to contact my staff or the NETWORK's staff and provide us with feedback regarding the usefulness of and possible improvements in the services offered by the NETWORK, so that we will be better able to assist you in your assigned educational tasks and responsibilities.

Cordially,

COL. Dennis J. Flynn
Director, Army Continuing Education

Services from page 1

puterized to allow for the fast retrieval of information which will meet the training and research needs of the NETWORK's participants.

The NETWORK's database includes bibliographic citations and abstracts of documents collected by the NETWORK and of relevant materials cited in the ERIC and NTIS databases. The human resources component of the database includes descriptions of ongoing research projects, various educational programs in operation at Army installations, as well as points of contact for projects, materials and programs operated by private and Federal organizations. These readily accessible resources enable the NETWORK to maintain the services described below.

Inquiry Response Service

Inquiry response is the service that comes to mind when users think of information centers, since this activity corresponds quite closely to the reference service provided by a librarian. NETWORK staff respond as quickly, accurately, and completely as possible to information requests.

NETWORK staff use a variety of strategies to locate the information required to respond to requests. The inquiry response process may involve searching the Military Educators Resource NETWORK's database, sending one or more of the NETWORK's publications, telephoning individuals in the Army or outside organizations, visiting area libraries to locate information, or referring the inquirer to a more appropriate source. Depending on the type of inquiry, the format of the response to the user may be a verbal transmission of information over the telephone, printouts of citations and abstracts, a publication, or a personal letter containing the appropriate information.

Inquiries are received by telephone, by mail, and in person. The NETWORK has staff available to receive telephone requests from 9:00 a.m. to 4:30 p.m., Monday through Friday eastern time. A telephone message service provides 24-hour access to the NETWORK.

To receive the most useful information in the shortest time, the user should

See Services page 7

RESEARCH CORNER

"AREIS" Computerized Help for Education Center Counselors

The U.S. Army is committed to providing information about educational and vocational opportunities to its soldiers. To meet this commitment, counselors at Army Education Centers are required to provide military personnel with educational and vocational counseling, with emphasis on military professional development and educational benefits. Both the increasing quantity and complexity of educational and vocational options and the reduction in the number of Education Center counselors have hampered the provision of these counseling services.

It has become evident that other means of supplying standardized, up-to-date, easily accessible educational and vocational information are needed. One such means is a computer-based information system. Over the past two decades, a growing number of guidance professionals have become increasingly committed to the use of the computer to assist with access and delivery of individualized educational and vocational information (Katz & Shatkin, 1980). The unique capabilities of the computer to store, search, retrieve, and update large masses of information; to relate educational and vocational data to information about the user; to simulate an interactive dialogue; and, to serve many users simultaneously with information tailored to individual needs, have validated the worth of this technological aid to the counseling process.

The Army Education Information System (AREIS) is a prototype system designed to overcome the increase of guidance information and decrease of counseling personnel in the Army. AREIS, a computer-based career guidance system, is intended to function in support of, not instead of, the activities performed by guidance counselors. As the computer carries out information retrieving and dispensing functions and clerical duties, counselors should gain time to perform the professional duties for which they were trained and for which they are needed — one-to-one interviewing, group guidance, and consultation.

Needs Assessment

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) initiated a research effort in 1979 to conceptualize and develop a prototype computer-based system which would provide information on military and civilian education programs related to the Army career progression. This effort, performed by the Discover Foundation, Inc., under contract MDA 903-79C-0279, provided a design for the Army Education Information System (AREIS) based on the result of a needs assessment survey administered to Education Services Officers (ESOs) and Education Center counselors at Army posts worldwide (Harris-Bowlsbey & Rabush, in press).

As the computer carries out information retrieving and dispensing functions and clerical duties, counselors should gain time to perform the professional duties for which they were trained and for which they are needed.

The needs assessment instruments were designed to collect data concerning:

- demographic information about the Education Center,
- the variety and frequency of information requested by soldiers at the Education Center, and
- ESO and counselor attitudes about using computers.

The instruments were distributed to all major commands. The return rate for the ESOs was 72 percent with 131 of 182 questionnaires mailed back. The return rate for counselors was 64 percent with 313 of 494 counselors responding.

Counselors indicated that half of their time is spent on one-to-one counseling of soldiers with the remainder distributed over administrative duties, orientation/outreach programs, clerical duties, liaison efforts, research an development, and other miscellaneous tasks. Counselors provide an average of two interviews per soldier per year. This represents approximately 64 percent of their workload. ESOs and counselors indicated that soldiers generally requested information about the Army Continuing Education System (ACES) and career planning. ACES information requested included the following:

- Tuition assistance;
- College course offerings on or near the post;
- Orientation to the Education Center services;
- Associate degree programs;
- College credit for military experience; and
- Basic Skills Education programs.

The most frequent career planning requests concerned:

- Developing a personal career plan in and beyond the military;
- Assessing interests; and
- Making the transition from a military to a civilian job.

ESOs and counselors also responded to a series of questions designed to assess their attitudes about the use of computers to deliver ACES information. They indicated that computerization of information about new and existing ACES programs, Department of the Army regulations, master schedule of courses, and Military Occupational Specialty (MOS) and civilian occupations would be useful. ESOs and counselors agreed that a computerized system would be welcomed by counselors, provided that they receive training on the use of the computerized system, because it would enable them to counsel more soldiers by reducing their administrative workload. In general, ESOs and counselors were positive about the value of this type of system as a tool to support Education Center operations.

See AREIS page 4

AREIS from page 3

AREIS Concept

The needs assessment results provided the rationale for the AREIS concept which is a computer-based guidance system designed specifically for Education Center use. The AREIS is composed of four courseware subsystems described below. Three of these serve the soldier directly by providing information concerning soldier-selected counseling issues. The fourth subsystem stores soldier records and is accessible only by counselors and Education Center staff.

ORIENTATION is the entry point for the soldier. The objectives of ORIENTATION are to:

- Familiarize the user with the computer terminal and printer;
- Provide instruction about the content of the AREIS;
- Explain the Education Center services; and
- Provide an overview of all ACES programs.

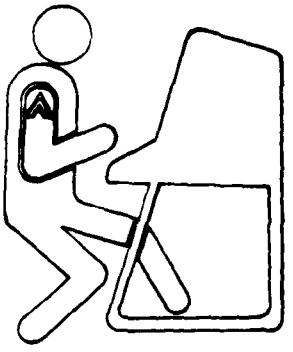
The education services described in this subsystem include educational counseling and improvement, skill development and recognition, and support services. Brief descriptions of sixteen ACES programs including apprenticeship, high school completion, and tuition assistance are available on a menu for selection by the soldier.

SELF-INFORMATION is designed to help the soldier define his/her work-related interests, aptitudes, skills, and values. The soldier may select from three on-line assessment instruments which are scored by the computer. The on-line interest inventory used is the UNIACT developed by the American College Testing program. The values instrument enables the soldier to examine his/her work-related values such as responsibility. The abilities assessment allows the soldier to rate him or herself on several abilities such as mathematics as compared to others. A list of appropriate occupations is generated for the soldier based on the soldier's response to the inventories and on the soldier's selection of educational level. AREIS also generates a summary that consolidates all elements of self-information provided by the soldier. Soldiers can print out their information at any point.

GOALS AND PLANNING helps the soldier identify educational and vocational short and long-range goals. It also provides details of ACES programs which can help the soldier achieve his/her goals. The soldier can select from preprogrammed short-range goals which can be attained while serving in the Army such as:

- Improving basic skills;
- Getting promoted; and
- Improving MOS skills.

The soldier may also select from a menu of long-range goals which can be



achieved during or after the Army career including:

- Making a vocational choice;
- Completing the next step in education;
- Planning a military career;
- Selecting another MOS; and
- Deciding about re-enlistment.

This subsystem of AREIS can be localized for each post. The counselor/administrator can input the master schedule of courses on or off post. Soldiers who wish information about completing the next step in education can access this information and learn what courses are available, special requirements, and where they meet.

Crosswalk information between civilian and military occupations is also included under this subsystem. Soldiers or counselors can enter an MOS and see what civilian occupations are related to that MOS. Under "Selecting Another MOS" soldiers can determine what MOSs are related to civilian occupations of interest to them.

COUNSELOR–ADMINISTRATOR has been designed to provide counselors with current educational and vocational information to be used during counseling interviews. This subsystem, maintained locally at each Education Center, contains a master schedule of all courses on or near the post; an occupational data file of 420 civilian occupations; and an MOS data file which indicates correspondence of MOSs to civilian occupations. This AREIS subsystem also maintains a record of each soldier's SELF-INFORMATION assessment and GOALS AND PLANNING activities. It should be noted that this subsystem is accessible only by Education Center staff who have appropriate passwords, and, therefore, each soldier's record is secure.

Field Tryout

The first field tryout of segments of the four AREIS subsystems was conducted at the Ft. Sill, Oklahoma, Education Center in April 1980. The segments were programmed in PLANIT (Programming Language for Interactive Teaching) on the Army's UNIVAC 1108 computer at the Edgewood Arsenal, Maryland, and delivered to Ft. Sill in a time-sharing mode.

Twelve counselors and sixty-four soldiers participated in the field tryout. The soldiers were volunteers who had come into the Education Center for ACES information. On-line surveys were given to the soldiers prior to using the AREIS and after the use of each subsystem to determine their attitudes on the usefulness, clarity, and interest level of all segments. Survey results indicate that the soldiers perceived AREIS to be useful for educational and vocational planning. Counselors indicated that the information provided by the AREIS subsystems was useful and accurate. They responded favorably to the delivery of educational information to soldiers by computer.

A cost/benefit analysis was performed to examine alternate delivery systems for the AREIS. The hardware configurations compared were a maxi-computer (such as that used during the field tryout), a distributed network of mini-computers, and a stand-alone microcomputer. The microcomputer was selected for future AREIS development and field tests because it is the most cost

See AREIS page 8

MAILING LIST UPDATE

The form below is designed to aid in the computerization of our mailing list.

To add your name to our mailing list, please complete the lower portion of this form, fold the page so that the NETWORK's address is visible, add the necessary postage (or use a government franked envelope), and return it to us.

MILITARY EDUCATORS RESOURCE NETWORK
MAILING LIST

(FOR OFFICE USE ONLY)

CHECK ONE:
___ ADD
___ CHANGE
___ DELETE

RN [ ][ ][ ][ ][ ] RECORD NUMBER

RC [ ][ ][ ] REFERENCE CODE

LN [ ] LAST NAME

FN [ ] RANK FIRST NAME MIDDLE INITIAL

TI [ ] TITLE

DV [ ] DIVISION

AD [ ] ADDRESS (Line 1)

AD [ ] ADDRESS (Line 2)

CT [ ] CITY [ ] STATE ST [ ][ ][ ][ ][ ] ZC (Zip Codes)

CN [ ] COUNTRY PH [ ] PHONE NUMBER

To return this form: Add postage and your return address, fold and staple so that the NETWORK is the addressee.

Return Address:

_____

_____

_____

_____

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, Virginia 22209

Services from page 2

spend some time formulating the request. The specialist who responds will need to know the following kinds of information from the user:

- Name, title, organization, address, telephone number;
- Narrative description of the request;
- Key words describing the subject of the request;
- Details about how the information will be used; and
- Desired or preferred response format.

An Information Request Form is available to assist users in articulating their information needs. Both CONUS and overseas personnel may complete and submit the form by mail or refer to it when they telephone the NETWORK Information Specialist. A copy of the Information Request Form will be sent to all users presently on the mailing list and to Army education personnel who request one by contacting the NETWORK.

POC Referral Service

To ensure complete responses to inquiries, the NETWORK staff will provide information about Points of Contact (POC) for military research and educational programs. Database records containing the name, address, and telephone number of individuals and offices that deal with all aspects of Army education are currently being created and will serve as an "online rolodex." These records are intended to supplement the literature citations and abstracts provided in response to inquiries from users.

Current Awareness Service

A curren: awareness service offered by the NETWORK has been designed to inform military educators about the most current literature and resources in the field. This service periodically provides Army educators with photocopies of the tables of contents of key journals in their field. Especially significant articles are highlighted on the photocopies to indicate their importance. Along with the photocopied tables of contents, users receive guidance on how to obtain copies of the articles through their post library or by requesting reprints from the authors.

Publications Service

The NETWORK has developed publications to complement the NETWORK's other services. The goal is to promote the services offered by the NETWORK and maintain a mechanism for reporting important new information in the areas of adult and continuing education.

Brochure and Rolodex Card. For promotional purposes, a brochure and rolodex card have been sent to users on the NETWORK mailing list. These two items will also be distributed at conferences attended by Army educators.

Fact Sheet. From time to time the NETWORK will publish a fact sheet, which will outline the most important aspects of a particular topic. Topics will be determined by reviewing information requests frequently received and by anticipating user needs as trends in the field develop.

Please let us know what topics would be most helpful to you.

Newsletter. This is the first issue of NETWORK *Circuit*, the quarterly newsletter we hope users will find a valuable resource for exchanging information. We think a newsletter is an important networking tool and urge readers to make suggestions for topics to be covered. Some of the topics we are considering include:

- Methods of teaching learning strategy skills to adults;
- Improving student motivation; and
- Ongoing educational research activities within the Department of the Army.

Perhaps the most useful articles will result from information provided by NETWORK participants on how they have solved problems encountered in meeting the educational needs of the Army.

The NETWORK's services are a direct response to the information needs of Army educators, researchers, and policymakers. The initial scope of these services was defined via concerns expressed by military educators throughout the world. The future direction of these services will evolve from new contacts and discussions with the NETWORK's participants. We hope that Army educators will take advantage of both the services offered and the opportunity to contribute insights into new areas of interest.

Information Included in the NETWORK'S Computerized Database

Instructional Materials and Basic Skills Curricula Descriptions in the Following Areas:

- Computation
- English as a Second Language
- Listening
- Reading
- Writing

Instructional Planning

- Learning Strategies
- Self-paced Instructional Programs

Computer-Assisted Instruction

- Computer Literacy
- Equipment Descriptions and Evaluations
- Software Descriptions and Evaluations
- Systems Descriptions and Evaluations

Other Areas

- Curriculum and Educational Program Evaluation Techniques
- Needs Assessment Techniques
- Army Installation Program Descriptions and Related Activities
- Military and Other Appropriate Federal or Civilian Agencies' Research in the Areas of Basic Skills or Computer-Assisted Instruction

AREIS from page 4

feasible, requires a minimum of technical and clerical support, is easily operated by non-technical personnel, and can be readily installed overseas. Further information on the field tryout is available in a report prepared by Carol Rabush entitled *U.S. Army Research Institute Research Note 82-3 Field Tryout of the Army Education Information System (AREIS).*

Status of AREIS Development

The results of the field tryout are guiding further development of the four AREIS subsystems. An in-service training package has been prepared to train counselors and other Education Center personnel in the operation of AREIS. User manuals have also been written for soldiers and counselors to guide their interactions with the computer as they use AREIS.

AREIS software, programmed in PASCAL, has been prepared for use on two multi-user microcomputers: the APPLE and the DISCOVERY.

Summary

ARI is guiding the development and field tests of AREIS as one solution to the surge of information which must be provided to soldiers by a decreasing number of Education Center counselors. The results of the field tests will be a tested set of specifications for a microcomputer-based counseling support system designed to meet Army Education Center counseling information needs. While supporting the occupational needs of the Army, AREIS is expected to increase soldier potential, job satisfaction, and educational growth.

For further information contact Dr. Zita Simutis, U.S. Army Research Institute, 5001 Eisenhower Avenue, Alexandria, Virginia 22333. C: (202) 274-5540 or AUTOVON: 284-5540.

References:

Berkowitz, Melissa. *The development of the Army Education Information System (AREIS)* (Research Report) Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, December 1982.

Harris-Bowlsbey, J. & Rabush, C. *Army continuing education system needs assessment* (Technical Report) Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, *in press*.

Katz, M.R. & Shaikin, L. *Computer assisted guidance: concepts and practices* (ETS Research Report 80-1) Princeton, NJ: Educational Testing Service, March 1980.

NETWORK Circuit is published quarterly by the Military Educators Resource NETWORK. It facilitates the exchange of information among military educators throughout the world. The NETWORK is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the U.S. Army Research Institute and the Adjutant General's Office.

The NETWORK is operated by InterAmerica Research Associates, Inc., pursuant to Contract No. MDA 903-82-C-0169. The views expressed in this publication do not necessarily reflect the views of the sponsoring agencies. For additional information on the NETWORK's resources and services contact: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, Virginia 22209. (703) 522-0667.

Rocco P. Russo, BSRC Director
Juan J. Gutierrez, President, InterAmerica Research Associates, Inc.

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, Virginia 22209

Address Correction Requested

NETWORK CIRCUIT

Vol. 1, No. 2

October 1983

Educational Reform

What Army Educators Can Hope For

Recent studies have focused public attention on the urgent need to reform the American educational system. In response to a directive from the U.S. Department of Education, the National Commission on Excellence in Education has produced a much-publicized report warning that a "rising tide of mediocrity" threatens the public schools, and thus the Nation. The Task Force on Education for Economic Growth, sponsored by the Education Commission of the States, has focused on action at the State and local level in its report that urges "fundamental changes in the priority we Americans put on education." These two reports have declared an educational emergency and stated that a major overhaul of America's schools is "crucial to our national survival."

Army educators have been aware of the serious problems in American education for a long time. According to Gerald B. Kauvar, a former Special Assistant for Education in the Department of Defense, the armed forces spent directly $60 million in fiscal year 1980 to teach basic skills. The total cost is far greater. At a 1981 conference sponsored by the Council for Basic Education, Kauvar stated that "this catch-up activity occupies the time of fully one-sixth of the people in the armed forces. Ill-prepared recruits present an increasingly critical problem." (Boston, 1982) For the fiscal year 1981, the Army reported that 45 percent of its enlisted population had reading and mathematics abilities below the ninth grade level, ranging as low as the fourth grade level. (U.S. GAO, 1983)

The Army Basic Skills Education Program was established to address the problem of wide discrepancy between military requirements and the actual skills of many recruits. However, some research in literacy indicates that extensive time and effort is needed to bring about the major improvements in reading ability that are required for many of the recruits to deal with the challenges of Army training programs. (U.S. GAO, 1983) It follows that national security, and specifically the Army education and training programs, will benefit from and, in fact, must rely upon the sweeping reform in American education called for by the recent reports.

Academic Reform Projects

The Council for Basic Education has been espousing academic reform since 1956. At its 1981 national conference, the Council highlighted six other ongoing efforts to examine, diagnose, and suggest solutions to the educational shortcomings in U.S. secondary schools (See page 2). All six projects view curriculum changes as critical. According to Pasch and Bannister (1982), each reform study "proposes to shift *from* a patchwork-response mode where additions to the curriculum are made when personal and societal wants and needs are expressed, and *toward* a core of common learning based on fewer but more enduring subjects." It seems that the thrust of recent reform proposals is away from school responsibility for growth in social, personal, and occupational areas, toward more traditional intellectual development.

Directions of Educational Reform

Over the past 90 years, high school reform has moved between two poles. One extreme can be described as "fit the child to the school" and involves a commitment to cognitive skills. The opposite, "fit the school to the child," treats a whole nonacademic series of barriers to social and economic success as educational problems. In 1893, Harvard's Charles W. Eliot chaired the National Education Association's (NEA) Committee of Ten, which set rigid academic standards for public high schools.

With the publication of *Cardinal Principles for Secondary Education* in 1918, the NEA swung in the opposite direction. This document provided the basis for a child-centered approach which allowed for more diversity in the curriculum and provided many more choices to the student. This social perspective influenced the schools until the 1950's when first Harvard's James Bryant Conant and then Sputnik propelled a rigorous academic reform. However, beginning with *Brown v. Topeka Board of Education* in the 50's and continuing through the late 70's, a series of laws and court decisions deeply involved public education in attempts to solve complex social problems.

See **Reform** *page 3*

Researchers Examine BSEP

Researchers are visiting many Army Education Centers and may be showing up at your installation in the near future. These researchers are taking a good long look at the Army's Basic Skills Education Program (BSEP). The purpose of this examination is, first of all, to make sure BSEP is providing the best possible service to soldiers and to the Army as a whole. Second, when decisions about the future directions for BSEP are made, a knowledge of features of individual programs that have met with great success as well as identification of problems that need to be solved will provide essential information. Third, a system for future quality control of BSEP needs to be developed.

U.S. Army Research Institute and American Institutes for Research (ARI and AIR) staff have been traveling to a lot of Army posts to find out just what kinds of things are going on in BSEP. So far, these researchers have

See **Research** *page 4*

RESOURCES

The purpose of the Resources Column is to highlight current books, reports, or journal articles that may be useful to military educators. The references cited below are examples of the types of resources The NETWORK can identify for users in response to their information requests. These citations were among those drawn from The NETWORK's computerized database in response to an education services specialist who called The NETWORK to request general background information on computer-assisted instruction.

Computer-Managed Instruction in Navy Technical Training: An Attitudinal Survey. Final Report

Designed to investigate the existing attitudes of students and instructors toward the computer-managed instruction (CMI) learning environment, this research project also identified factors relating to these attitudes. Questionnaires were developed and administered to 100 instructors and 255 trainees from five schools taught under the CMI system. In general, trainee and instructor questionnaires contained items exploring attitudes toward the CMI system in the learning environment, demographics, interactions with instructors or students, and motivations. Response data were analyzed using descriptive and inferential statistics. Results of the study indicated that trainees' attitudes toward the CMI system in the learning environment were generally favorable, while those of instructors were generally not favorable. The study also revealed that trainees' length of service with the Navy appears to be related to attitudes toward the CMI system in the learning environment: the longer the trainee is in the service, the more negative the individual tends to be toward the system. Copies of the student and instructor questionnaires are appended and 13 references are listed.

Carol Ann Robinson and others. San Diego, CA: Navy Personnel Research and Development Center, 1981. 50 pp. ED 212290. MF - $.97; PC - $3.90.

Levels of Evaluation for Computer-Based Instruction

The uses and methods of four levels of evaluation which can be conducted during the development and implementation phases of computer-based instruction (CBI) programs are discussed in this paper. The levels of evaluation presented are: (1) documentation, (2) formative evaluation, (3) assessment of immediate learner effectiveness, and (4) impact evaluation. The components of the documentation level of evaluation, which include monitoring project costs, record keeping, and personal observation, are outlined; the processes involved in formative evaluation, including internal review and operational testing, are described; the various factors involved in the assessment of immediate learner effectiveness are summarized; and the nature of impact evaluation is discussed. A set of nine sample evaluation forms relating to different levels of evaluation and their associated methods and a 24-item bibliography accompany the text.

Thomas C. Reeves and Richard M. Lent. Paper presented at the American Educational Research Association Annual Meeting, New York, 1982. 29 pp. ED 217870. MF - $.97; PC - $3.90.

Microcomputers in the Classroom — Dreams and Realities. Report No. 319

Taking the current excitement among educators concerning the uses of microcomputers for student instruction as a point of departure, this paper addresses the problems and possibilities associated with the uses of microcomputers in the classroom and discusses these in terms of instructional techniques and the social aspects of integrating computer activities into classroom environments. A pilot program in which microcomputers were used to teach programming in elementary school classes is described and the six major instruction-related uses of computers, that is, drill-and-practice, tutorial computer-assisted instruction, computer-managed instruction, simulation and model building, the development of computerized information skills, and teaching computer programming are carefully reviewed. Special attention is given to the place of computer programming in the school curriculum and the advantages and disadvantages of the BASIC programming language are outlined. The social organization of computer use in schools is then considered. A summary of recommendations for researchers, developers of computer-based educational materials, and school system administrators concludes the paper. A 45-item reference list is attached.

Henry J. Becker. Baltimore, MD: John Hopkins University, Center for Social Organization of School, 1982. 80 pp. ED 217872. MF - $.97; PC - $7.40.

State of the Art Developments in Established CAI Efforts — The TICCIT System.

This paper, presented at a symposium on computer-based instructional systems, discusses innovations in the TICCIT computer-based instructional system. Specific issues addressed include innovations in the system's authoring languages, integration of videodisc technology, instructional management systems, creation of color computer graphics using a digitizing camera, and two-dimensional simulations of instrument panels. Additional topics include a discussion of educational and psychological research that has influenced design and use of the system and planned developments in the system in the next 2 to 3 years.

David E. Stone and others. Paper presented at the American Educational Research Association Annual Meeting, New York, 1982. 18 pp. ED 217882. MF - $.97; PC - $2.15.

How to order: The above document may be ordered from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, VA 22210. When ordering, please specify ED number and format desired, microfiche (MF) or paper copy (PC), and include payment for the price listed plus shipping.

National High School Reform Projects

Six national projects have been initiated to address the academic reform issues. The projects and their sponsors are identified below as potential resources for further information about their impact on basic skills education programs.

An Education of Value
National Academy of Education
405 Gutman Library
6 Appian Way
Cambridge, MA 02138
(617) 495-5380

The Paideia Program
Institute for Philosophical Research
101 East Ontario Street
Chicago, IL 60611
(312) 337-4102

Project Equality
The College Board
888 Seventh Avenue
New York, NY 10106
(212) 582-6210

Redefining General Education in the American High School
Association for Supervision and Curriculum Development
225 North Washington Street
Alexandria, VA 22314
(703) 549-9110

A Study of the American High School
Carnegie Foundation for the Advancement of Teaching
5 Ivy Lane
Princeton, NJ 08540
(609) 452-1780

A Study of High Schools
National Association of Secondary School Principals
1904 Association Drive
Reston, VA 22091
(703) 860-0200

Have You Contacted The NETWORK Yet?

Our staff is eager to assist you in identifying and locating the information resources you need to meet the challenges encountered in providing educational programs.

CALL OR WRITE SOON!

Reform *from page 1*

Reports of the studies referenced here all propose reform that would move American schools away from the task of social reconstruction and back to a basic curriculum of academic subjects and rigorous standards. (Boston, 1982)

Recommendations

Specific suggestions for major changes have been recommended or proposed in recent studies of the American educational system. After citing evidence of the erosion of academic excellence in our schools, the National Commission for Excellence in Education (1983), for example, makes specific recommendations in five areas:

- **Content.** All students seeking a high school diploma should take 4 years of English, 3 years of mathematics, 3 years of science, 3 years of social studies, ½ year of computer science. College bound students should also take 2 years of a foreign language.
- **Standards and Expectations.** "Schools, colleges, and universities should adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct, and... 4-year colleges and universities should raise their requirements for admission. This will help students do their best educationally with challenging materials in an environment that supports learning and authentic accomplishment."
- **Time.** "Significantly more time should be devoted to learning the... Basics. This will require more effective use of the existing school day, a longer school day, or a lengthened school year."
- **Teaching.** Such recommendations as tougher standards, higher salaries, and merit pay are "intended to improve the preparation of teachers and to make teaching a more rewarding and respected profession."
- **Leadership and Fiscal Support.** "Citizens across the Nation should hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms, and citizens should provide the fiscal support and stability required to bring about the reforms proposed."

Concern for Students Who Fail

An important question addressed by some of the studies concerns those students who will have difficulty with rigid academic standards. The reform in standards and curriculum means that students will be allowed to fail. It is important for these students to be encouraged to try again by providing renewed help and different instruction. The challenge to the schools is to be clear and firm about expectations without abandoning young people. (Boston, 1982)

Conclusion/Summary

These recommendations and similar ones put forth in the other studies address what the Council for Basic Education has called the core issue to which the reform movement must come to terms: the schools are expected to teach so much that they wind up unable to teach much of anything. According to the Council, the schools must reorder their priorities. Nonacademic aspects of life are important, but the schools have all they can do to impart the basic academic skills and subject matter. Furthermore, "every minute accorded to nonessential learning is lost to the subjects that foster... 'generative power,' i.e., the power within the student to learn whatever lessons life may offer or require." (Boston, 1982)

The low literacy level of Army recruits is inconsistent with the high technology of the weapons and communications equipment of the modern Army. A response of the Army has been the Basic Skills Education Program (BSEP). The Government Accounting Office has criticized BSEP for taking too broad a sweep and has proposed more specialized basic skills training programs for various Army occupational classes and needs. A longer run solution may come from the recent activity stimulated by studies which challenge the effectiveness of the present educational system and recommend lines for major redirection of efforts.

Evelyn H. Allin, The NETWORK

How to Reach The NETWORK

Requests can be made by phone or by mail. NETWORK staff are available to receive calls between 9:00 am and 4:30 pm eastern time at (703) 522-0667; or use AUTOVON 851-3350 and ask for "off-net government official call to 522-0667." A telephone message service is available at the same number at all other times. Written requests may be sent to:

Military Educators Resource NETWORK
1555 Wilson Boulevard, Suite 508
Rosslyn, VA 22209

References

Boston, Bruce O. *The American High School Time for Reform.* Washington, D.C.: Council for Basic Education, January 1982.

The Education Commission of the States, Task Force on Education for Economic Growth. *Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools.* Washington, D.C.: The Education Commission of the States, 1983.

The National Commission on Excellence in Education. *A Nation at Risk: The Imperative for Educational Reform.* Washington, D.C.: U.S. Department of Education, 1983.

Pasch, Marvin and Rosella Bannister. "Consumer Education in Step with High School Reform." *Concerns*, Vol. 4, No. 4, September/October, 1982.

U.S. General Accounting Office. *Report to the Secretary of the Army.* Washington, D.C.: U.S. GAO, June 1983.

Information Included in The NETWORK's Database

The NETWORK's database contains citations of resources (e.g. books, journal articles, etc.) in the adult education field. Each citation provides descriptive information such as author, date, availability, and a short summary. Some of the subjects included in the database are:

Education: Audiovisual and computer equipment/courseware evaluations; basic skills curricula such as ESL, reading, writing, and computation; instructional materials and tests; computer-assisted, individualized, and self-paced instruction; curriculum development and evaluations, educational research, learning strategies; teaching methods and teacher evaluation.

Counseling: Career planning and guidance including computer-based guidance systems; counseling methods.

NETWORK Circuit is published by the Military Educators Resource NETWORK. The NETWORK is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the U.S. Army Research Institute and the Adjutant General's Office.

The NETWORK is operated by InterAmerica Research Associates, Inc., pursuant to Contract No. MDA 903-82-C-0169. The views expressed in this publication do not necessarily reflect the views of the sponsoring agencies. This work is not copyrighted. Readers are free to duplicate and use all or any portion of it. In accordance with accepted publication standards, InterAmerica requests that proper credit be given. For additional information on the NETWORK's resources and services contact: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, Virginia 22209 (703) 522-0667.

Rocco P. Russo, BSRC Director

Juan J. Gutierrez, President InterAmerica Research Associates, Inc.

***Research** from page 1*

visited sites in USAREUR, Panama, and CONUS. They have talked with ESOs, counselors, program directors, teachers, students, BSEP graduates, NCOs, and commanders to find out what benefits the Army is getting from BSEP, what problems exist, and what changes are needed as viewed by people closest to the realities of program outcomes.

ARI and AIR have also looked at special Army education programs for ideas to enrich the usual training methods. Among these programs are long term pilot ESL programs held at DLIELC, a learning strategies program conducted at Ft. Knox, and MOS Baseline Skills programs developed at Ft. Gordon.

Some findings of research on the ESL component of BSEP are now available. The regular six-week and the experimental three-month and six-month ESL programs were evaluated using standardized group tests, individual oral tests, observations, and other techniques.

Most of the soldiers in ESL programs were well educated Puerto Ricans whose English speaking skills were weak. The three programs differed considerably in their length and content. All three programs produced gains in English proficiency as measured by the standardized test. Participants in all three programs made substantially higher average weekly gains (ranging from 1.3 to 1.9 points) than the control group (.5 points).

Oral proficiency data showed that six-week students gained at about the same rate as three-month students in some skills but not in others.

ESL participation clearly affected attrition rates for six-month program students (9.9 percent for the control group compared with 3.5 percent for the experimental group), and it may have influenced attrition rates for three-month program students.

Although ESL participants generally liked their programs and teachers, they felt the need for more practice in conversation skills.

These evaluation efforts demonstrate the ongoing concern of the Army, and especially of the Office of The Adjutant General, for enriching the quality of Army enlisted ranks together with improving job performance. All of the findings that emerge from this effort, which will continue until 1986, are being and will continue to be presented to decision makers for their consideration.

(The description of ESL research was taken from a Research Report, "English-as-a-Second-Language Programs in the Army," which is currently in press. The authors are Rebecca Oxford-Carpenter and Joan Harman of the Army Research Institute and Janice Redish of the American Institutes for Research.)

Joan Harman

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, Virginia 22209

NETWORK CIRCUIT

Vol. 1, No. 3 February 1984

Learning How to Learn Using Computer-Assisted Cooperative Techniques

Can students be taught not only subject matter but also the most efficient methods to acquire and use that information? Research indicates that an individual's capacity for acquiring and using information can be improved with direct training on appropriate strategies for information processing.

Although there appears to be a number of effective learning strategies emerging from basic research efforts, the utility of these strategies is severely limited by difficulties in communicating them to learners (Dansereau, in press). Training adults to incorporate new learning strategies into their repertoires is plagued with all of the problems present in complex motor skills retraining (e.g., Singer, 1978), plus additional complexities arising from the covert nature of cognitive and metacognitive activity. This article discusses a research project that involved the development of an improved methodology for learning strategy training.

The approach used in the learning strategy training is a combination of two methods: computer-assisted instruction (CAI) and cooperative learning (peer tutoring). The training module resulting from this combination uses the strengths of the two methods while eliminating the weaknesses of each. Subsequent paragraphs will provide background on each of these approaches.

Computer-Assisted Instruction

With the advent of flexible, economical microcomputers, it is clear that in the future computers will be one of the major instructional delivery systems. With respect to learning strategy training, computer-assisted/managed instruction has several important strengths. Specifically, it can (a) provide an economical source of expertise (in comparison to human experts) in both subject matter and process, (b) control, monitor, and reinforce the flow of learning activities in an objective and efficient manner, (c) keep track of subject responses for future analysis, and (d) tailor training activities based on pretraining individual difference measures and on responses to tasks within the training sequence.

On the other hand, there are two major weaknesses with the CAI approach as it applies to strategy training. First, effective learning strategies usually require the learner to produce alternate versions of the text information. Although there has been progress in the development of natural language interpreters, we are a long way from having systems that can analyze and diagnose free recalls and elaborations of text, which are important indicators of the degree of acquisition of a body of knowledge.

A second weakness is the fact that computers cannot provide a convincing model for students to imitate and to use as a basis for evaluating their own relative strengths and weaknesses. This is unfortunate, in that it is clear (Dansereau, in press) that one of the most potent methods of communicating skills and strategies in general and learning strategies in particular is social modeling (i.e., demonstrations of strategy usage).

Cooperative Learning

Cooperative learning (peer tutoring) is another training methodology with potential for improving the acquisition of knowledge and skills. Not only do students studying textbook material in cooperating pairs perform better on delayed recall and recognition measures than students studying individually (Dansereau et al., 1979a; McDonald, Dansereau, Garland, Holley, & Collins, Note), but there is also evidence of positive transfer of learning skills from the dyadic experience to subsequent individual studying (McDonald et al., Note). In addition to improvement in cognitive skills, cooperative learning has led to positive effects on measures of self-esteem, altruism, and mutual concern (see reviews by Sharan, 1980 and Slavin, 1980).

Research indicates that an individual's capacity for acquiring and using information can be improved with direct training on appropriate strategies for information processing.

The cooperative learning paradigm, using two students interacting over a segment of text, has two salient strengths. First, the participants have an opportunity in this situation to observe and imitate each other's processing. Students can learn new strategies from their partners even without instructions to do so. In addition, cooperating students can gain insights with regard to their relative levels of cognitive effort, persistence, and affective control. Second, the students can evaluate, diagnose, and correct each other's productions. Since only humans are able to tolerate ambiguities and transcend grammatical misconstructions, it is clear that they are the only available processors that can interpret the unrestrained natural language present in the free recall of information.

Obviously, the cooperative learning paradigm is not without weaknesses. In our experience the most important of these is that often neither cooperating student has the necessary content and or process expertise to maximize the learning experience. This can result in a type of "blind leading the blind" situation which may be detrimental for both parties in-

See **Learning** page 2

Learning from page 1

volved. In addition, many pairs of students have difficulty staying on the task and effectively managing their available time and resources.

Computer-Assisted Cooperative Learning Training Modules

Computer-Assisted Cooperative Learning (CACL) training modules combine the strengths and offset the weaknesses of the two component technologies—computer-assisted instruction and cooperative learning. In CACL, the computer programs provide cooperating pairs of students with the necessary database for adequate content and processing expertise, as well as control the flow of activity. At the same time each student in the pair acts as a model for the other student and provides properly adaptive evaluations of the other person's productions.

This first application of the CACL methodology was designed to train students on the use of the MURDER text processing strategies developed by Dansereau et al., (1979b). The input strategy, 1st degree MURDER, includes six steps for learning text material: (1) setting a proper *Mood* for learning, (2) reading for *Understanding*, (3) *Recalling* the information using verbal paraphrases and descriptions of images, (4) *Detecting* errors or omissions in the recall, (5) *Elaborating* to make the material more easily remembered, and (6) a final *Review*.

The 2nd degree MURDER strategy includes six steps for using the acquired information during task performance: (1) getting into a proper *Mood* for the task, (2) *Understanding* the goals and conditions of the task, (3) *Recalling* information relevant to the task, (4) *Detecting* omissions, errors, and ways of organizing the information, (5) *Elaborating* the information into a proper response, and (6) *Reviewing* the response to modify it if necessary.

To evaluate the CACL methodology, three groups of students were asked to study a set of medically related text excerpts. The *CACL Group*, which consisted of 30 students, was given instructions and practice on using 1st and 2nd degree MURDER in learning and recalling the text via the computer-assisted cooperative learning technique. The *Individual Strategy Group* (group two), which consisted of 28 students, was given instructions and practice individually via written materials. Finally, the *Control Group* (group three) consisted of 31 students who studied the practice materials using their regular study and test-taking methods. Following training, all students, regardless of group affiliation, individually studied and took free recall tests over two passages. The first passage, which was medically related, was included to assess direct (near) transfer of training, and the second, which contained technical but non-medical content, was included to assess indirect (far) transfer.

Results

Statistical analysis of the scores on free recall tests over the medically related passage (near transfer) and the non-medically related passage (far transfer) demonstrated significantly better performance for the CACL Group than for the Control Group. In addition, although the differences were nonsignificant, the CACL Group consistently performed better than the Individual Strategy Group. These findings support the contention that computer-assisted instruction and cooperative learning can be combined to produce an effective method for teaching learning strategies. The positive findings for both dependent passages suggest that the strategies acquired are substantially content independent and, consequently, should be generalizable to a variety of text materials.

In addition to group differences in performance on free recall tests, analysis of a post-experimental questionnaire indicated that the CACL Group viewed the learning strategies they received as more effective, and their personal gain from the experimental experiences as more positive than the Individual Strategy Group.

It can be speculated that the members of the CACL Group were able to benefit from the social modeling provided by the other person in the pair or from the management properties written into the computer program or from an interaction of both technologies. Further studies are needed to separate the differential impact of these two contributing technologies on the effectiveness of the CACL module.

The above summary is based on a paper entitled "The Development and Evaluation of a Computer-Based Learning Strategy Module," authored by V. Hythecker, T. R. Rocklin, D. F. Dansereau, J. Lambiotte, C. Larson, and A. O'Donnell. The work reported by these authors is being conducted through a subcontract with InterAmerica Research Associates, Inc. in Rosslyn, Virginia. This research effort is a part of InterAmerica's Basic Skills Resource Center which is funded by the U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, Virginia under contract No. MDA-903-82-C-0169.

References

Dansereau, D. F. Learning strategy research. In J. Segal, S. Chipman, & R. Glaser, *Thinking and learning skills: Relating instruction to basic research*. Lawrence Erlbaum Associates, Hillsdale, N.J. Vol. 1, in press.

Dansereau, D. F., Collins, K. W., McDonald, B. A., Holley, C. D., Garland, J. C., Diekhoff, G., & Evans, S. H. Development and evaluation of an effective learning strategy program. *Journal of Educational Psychology*, 1979, *71*, 64-73. (a)

Dansereau, D. F., McDonald, B. A., Collins, K. W., Garland, J. C., Holley, C. D., Diekhoff, G. M., & Evans, S. H. Evaluation of a learning strategy system. In H. F. O'Neil, Jr., & C. D. Spielberger (Eds.), *Cognitive and affective learning strategies*. New York: Academic Press, 1979. (b)

Holley, C. D., Dansereau, D. F., McDonald, B. A., Garland, J. C., & Collins, K. W. Evaluations of a hierarchical mapping technique as an aid to prose processing. *Contemporary Educational Psychology*, 1979, *4*, 227-237.

Sharan, S. Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. *Review of Educational Research*, 1980, *50*, 241-271.

Singer, R. N. Motor skills and learner strategies. In H. F. O'Neil, Jr., (Ed.), *Learning strategies*. New York: Academic Press, 1978.

Slavin, R. E. Cooperative learning. Review of Educational Research, 1980, *50*, 315-342.

Note

McDonald, B. A., Dansereau, D. F., Garland, J. C., Holley, C. D., & Collins, K. W. *Pair learning and the transfer of text processing skills*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, April 1979.

RESEARCH CORNER

Two Decades of CBI Research: What Have We Learned?

A summary of some major studies of computer-based instruction (CBI) that have occurred since 1959 is presented in a report by the Human Resources Research Organization (HumRRO). The authors' intention was to stimulate discussion about accomplishments and failures in the field of computer-based instruction by identifying significant outcomes of fifty major projects.

The framework for the review is a classification scheme that outlines eight categories of research studies:

1. Development of Prototypes
2. Conceptual Demonstrations
3. Major Implementations and Evaluations
4. Dissemination
5. Authoring Languages and Systems
6. Intelligent CAI
7. Innovative Environments
8. New Theory

The next paragraphs highlight some of the considerations discussed under five of the categories listed above.

Among the significant *prototypes* mentioned are PLATO, a large-scale system with remote terminals; the IBM 1500, a local timesharing system, which was intended for CBI research and development rather than widespread implementation; and TICCIT, a local timesharing system.

The discussion of large-scale *implementations and evaluations* of CBI concludes that CBI has been both effective and practical under the appropriate conditions. The research literature described also identifies major implementation problems which must be considered.

The *dissemination* activities investigated include periodicals such as the *Journal of Courseware Review;* MicroSift, which maintains an online database with information on microcomputer courseware; and EDUCOM, a non-profit group organized to promote sharing and exchange of computer resources among universities and colleges.

Authoring languages and authoring systems were developed to make the production of computer-based instructional lessons more efficient and also to require less technical computer knowledge. Although some system-independent author languages have been developed, most major CBI systems have their own. While the use of author languages requires actual programming to produce an instructional lesson, an authoring system usually involves conversational interaction or prompting.

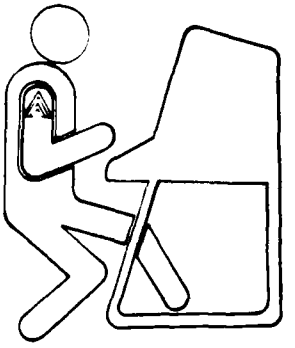
Intelligent computer-assisted instruction (ICAI) programs are fundamentally different in structure and function because they have the capability to understand what is being taught and why the student has made a mistake. ICAI programs demonstrate the kind of individualized instruction which computers can provide.

The authors conclude that, overall, CBI research has had and will continue to have a substantial impact on education. Listed below are major outcomes of CBI research as identified by HumRRO.

1. There is ample evidence that computers can make instruction more efficient or effective.
2. We know relatively little about how to individualize instruction.
3. We do not have a good understanding of the effects of instructional variables such as graphics, speech, motion, or humor.
4. A great deal has been learned about overcoming institutional and organizational inertia and resistance to change in the context of implementing CBI.
5. Significant progress has been made on the development of authoring tools and techniques for CBI.
6. Numerous mechanisms have been developed for the dissemination of CBI ideas and courseware.
7. CBI has spurred research throughout the entire field of instruction.
8. Federal funding has played a pivotal role in advancing CBI.
9. We have just scratched the surface of what can be accomplished with computers in education.

The report, which lists extensive references, can serve as a guide to lead the reader to more detailed studies.

A copy of the report *Two Decades of CBI Research: What Have We Learned?*, which is summarized above and authored by G. Kearsley, B. Hunter, and R. J. Seidel, can be obtained from HumRRO, 1100 South Washington Street, Alexandria, VA 22314.



Publications Available Free from the NETWORK

Newsletters:

NETWORK Circuit No. 1, July 1983

NETWORK Circuit No. 2, October 1983

NETWORK Circuit No. 3, February 1984

NETWORK Vanguard Nos. 1, 2, and 3

(Current Journal Tables of Contents)

NETWORK Fact Sheets

No. 1 Computer Literacy and the Army Educator

No. 2 The NETWORK Inquiry Response Service

No. 3 Evaluating Instructional Software

RESOURCES

The Military Educators Resource NETWORK offers those responsible for educational activities an opportunity to obtain information through its ever-increasing resources and provides answers to inquiries in a variety of ways. In response to an ESO's request for information about developing and teaching a computer literacy course, the NETWORK staff identified a variety of informational resources. The materials provided to the ESO included information about available booklets on computer literacy, available software, and a selected bibliography as well as citations from the NETWORK's database. Examples of these materials are shown below.

Software Vendors

Each of the following vendors has indicated that books and/or software on computer literacy are available. Many vendors provide free catalogs. Call or write for more information.

Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
(for PLATO Software catalog)
800-233-3784 or CA 800-233-3785

Milton Bradley Software
443 Shaker Road
East Longmeadow, MA 01028
413-525-6411 ext. 2334

Opportunities for Learning, Inc.
8950 Lurline Avenue, Dept. 51
Chatsworth, CA 91311
818-341-2535

Queue
5 Chapel Hill Drive
Fairfield, CT 06432
203-335-0908 or 1-800-232-2224

Reston Publishing Co., Inc.
11480 Sunset Hills Road
Reston, VA 22090
800-336-0338 or VA 703-437-8900

Sterling Swift Publishing Co.
7901 S. Interregional Fwy (IH-35)
Austin, TX 78744
Contact: Rod Autrey 512-282-6840

Selected Bibliography on Computer Literacy

Listed first is a tool for software selection, which includes some of the above vendors as well as many others. Organized by subject area such as computer literacy, this book describes various software packages in detail and provides information on purchasing.

Corporate Monitor, Inc. *Educational Software Directory.* Libraries Unlimited Inc., 1982. 292 p. ISBN:0-87287-352-8. $22.50 PB.

Christie, Linda. *The ABC's of Microcomputers. A Computer Literacy Primer.* Prentice-Hall Inc., 1983. 218 p. ISBN:0-13-000620-3. $15.95 HB. ISBN:0-13-000612-2. $7.95 PB.

Lombardi, John V. *Computer Literacy. The Basic Concepts & Language.* Indiana University Press, 1983. 128 p. ISBN:0-253-31401-1. $12.95 HB. ISBN:0-253-21075-5. $5.95 PB.

Loop, Liza. *Computer Town. Bringing Computer Literacy to Your Community.* Reston Publishing Co., 1983. 176 p. ISBN:0-8359-0884-4. $17.95 HB. ISBN:0-8359-0875-5 PB.

Spencer, Donald A. *Computer Literacy Test Questions.* Camelot Publishing Co., 1983. ISBN:0-89218-074-9. $6.95.

Spencer, Donald D. *An Introduction to Computers. Developing Computer Literacy.* Merrill Publishing Co., 1983. ISBN:0-675-20030-X. $18.95.

Booklets

The following annotations were taken from the October 1983 issue of **Computing Teacher**, which is published by the International Council for Computers in Education (ICCE):

• **An Introduction to Computing: Content for High School Course** proposes a unit-by-unit course outline for computer science instruction at the secondary school level. Recently revised, and designed for a year-long course, the booklet contains a variety of activities emphasizing applications, programming, computer environment, and social impact. $2.50, 48 pages.

• ***Precollege Computer Literacy*: A Personal Computing Approach** talks about the need for professionals in the field of computer education to recognize and implement a universal standard of precollege computer literacy. Via an analysis of personal computing and those aspects of computers that have direct impact on students, the booklet briefly discusses and defines computer literacy goals for elementary and secondary schools. $1.50, 28 pages.

• **Computer Metaphors: Approaches to Computer Literacy** suggests alternative methods for relating to computers. For the novice that might be intimidated by a computer, or as the basis for class discussions, this book develops several metaphorical approaches: the computer as glass box, as palette, as mentor, as catalyst and . . . By Dr. Howard Peele, School of Education, University of Massachusetts . . . $6.00

• ***The Evaluator's Guide to Microcomputer-Based Instructional Packages*** can help you make informed, intelligent software purchasing decisions. This recently revised step-by-step guide to concise software evaluation—with sample reviews, evaluation forms, and Glossary—is an invaluable tool in effective software review and selection. $2.50, 48 pages.

To purchase these booklets write to ICCE, Department CTA, 1787 Agate Street, University of Oregon, Eugene, OR 97403 or phone 503 686-4414.

Citations

Various NETWORK database citations were identified and provided to the ESO in response to his above stated request. One citation provided is shown in Figure 1. The description in the accompanying article outlines how to understand and use the database citation.

How to Reach The NETWORK

Requests can be made by phone or by mail. NETWORK staff are available to receive calls between 9:00 a.m. and 4:30 p.m. eastern time at (703) 522-0667, or use AUTOVON 851-3350 and ask for "off-net government official call to 522-0667." A telephone message service is available at the same number at all other times. Written requests may be sent to:
Military Educators Resource NETWORK
1555 Wilson Boulevard, Suite 508
Rosslyn, VA 22209

How to Use Database Citations

A major component of the NETWORK Inquiry Response Service is the Military Educators Resource NETWORK Database. The NETWORK staff can search this database to find citations of research papers and journal articles that pertain to an educator's inquiry. This service directs the user to state-of-the-art information and research done in the past.

To ensure that a search of the computerized database will retrieve relevant material only, the NETWORK Information Specialist uses key words, also called *descriptors*, which describe the topic as specifically as possible. The citations obtained through a computer search provide enough information to determine if the full document would be of value or interest to the user.

A printout of the citations is then sent to the requestor who can evaluate the potential value of each document by reading the *abstract*, which is a narrative summary of the full document. Based on this information, the user can determine which papers or articles will be relevant and then obtain the original documents through the base or local library. If you have problems locating documents, your post librarian will be glad to help you.

In the example of the printed citation (See figure 1.), all of the sections are labeled and most are self-explanatory. However, several are described below in further detail.

Figure 1
Military Educators Resource Network Data Base

ACCESSION NUMBER —	ER00446
PERSONAL AUTHOR —	Woodhouse, D.
TITLE —	Introductory Courses in Computing: Aims and Languages.
PUBLICATION TYPE —	080:120:141.
SERIES STATEMENT —	Computers and Education; U7 N2 P 79-89.
PUBLICATION DATE —	830000
LANGUAGE —	Eng.
PHYSICAL DESCRIPTION —	11P.
AVAILABILITY —	Available from University Microfilms International (UMI).
PRICE AND ORDER NO(S) —	EJ-281-417.
GOVERNMENT STATUS —	Not Govt.
ABSTRACT —	Discusses the rationale, aims, and objectives of introductory computer courses and suggests an improved approach to designing such courses to prepare pupils for a computer-based society and to improve problem solving through structured programming. Criteria for evaluating and choosing an appropriate language are listed. (EAD).
DESCRIPTORS —	Computer-Literacy; Computers; Curriculum-Development; Curriculum-Design; Programming-Languages; Evaluation-Criteria
DATABASE FILE —	BIB
DATE ENTERED —	11/15/83

Accession Number. To be used by NETWORK staff; can be ignored by the user.

Personal Author. Names of individual authors; important for obtaining full document.

Title. Also important for retrieving full document.

Publication Type. To be used by NETWORK staff; can be ignored by the user.

Series Statement. Included when document originated as part of a series of publications, such as a journal article. Name of journal as well as volume, number, pages, and date will be listed here.

Publication Date. Year of Publication.

Language. Language in which article appears.

Physical Description. Number of pages, illustrations, dimensions, etc.

Availability. This section sometimes lists the names of organizations that provide reproduction services for the articles and papers. Photocopies of ERIC documents may be purchased from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, VA 22210 (703 841-1212). Photocopies of documents in the NTIS (National Technical Information Service) system can be obtained from NTIS, Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161 (703 487-4600).

Price and Order Number. Price will be given when known. The *order number* is the code used by the organizations which furnish citations to identify and locate documents. One of these organizations is ERIC, which specializes in researching educational material. If the first two letters of the code are EJ, the document is a journal article, which can be found in local library collections or can possibly be obtained through the interlibrary loan system. When the *order number* begins with *ED*, the document is part of the ERIC microfiche collection that can be found in many libraries across the country. If a local library does not have this collection, a copy of the document can probably be obtained through interlibrary loan.

See **Citations** page 6

Citations from page 5

Government Status. Indicates State or Federal Government funding or no Government affiliation.
Abstract. Narrative summary.
Descriptors. Key words.
Database File. Indicates one of the two component databases: BIB (Bibliography) or DIR (Directory).
Date Entered. To be used by NETWORK staff: Can be ignored by user.

Some requests involve topics not covered in the NETWORK database. In this case, a search of other databases is conducted for pertinent citations which, if appropriate, will be included in the NETWORK's collection. In this event, a copy of the citation will be sent to the user in the original format of that database. This format is generally less clear than the NETWORK citation format and may require assistance from a librarian.

The purpose of the citations provided by the NETWORK is to offer current and/or comprehensive summaries of research on specific educational topics. It is the user's responsibility to determine by reading the abstract portion of the citation if the full document will be helpful.

Remember that the NETWORK staff is here to help you locate as much pertinent information as possible. If you feel the material sent to you is not relevant or if the search can be expanded to provide additional information, do not hesitate to contact the NETWORK to request another search.

Julia A. Foster
NETWORK Information Specialist

Help Evaluate NETWORK Publications

The NETWORK needs your help. Please take a few minutes to evaluate NETWORK publications by completing the short questionnaire that is enclosed with this newsletter.

NETWORK Circuit is published quarterly by the Military Educators Resource NETWORK. It facilitates the exchange of information among military educators throughout the world. The NETWORK is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the U.S. Army Research Institute and the Adjutant General's Office.

The NETWORK is operated by *InterAmerica Research Associates, Inc.*, pursuant to Contract No. MDA 903-82-C-0169. The views expressed in this publication do not necessarily reflect the views of the sponsoring agencies. This work is not copyrighted. Readers are free to duplicate and use all or any portion of it. In accordance with accepted publication standards, InterAmerica requests that proper credit be given. For additional information on the NETWORK's resources and services contact: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, Virginia 22209, (703) 522-0667.

Rocco P. Russo, BSRC Director
Juan J. Gutierrez, President, InterAmerica Research Associates, Inc.

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, Virginia 22209

NETWORK CIRCUIT

Vol. 1, No. 4 May 1984

Learning Strategies and ESL in the Army A Research Project

By Gloria Stewner-Manzanares and Lisa Kupper

A project designed to study the effectiveness of learning strategies for specific English learning tasks is underway at the Basic Skills Resource Center (BSRC) run by InterAmerica Research Associates in Rosslyn, Virginia. Funded by the Army Research Institute for the Behavioral and Social Sciences, the BSRC project is investigating the use of learning strategies as a way to enhance the listening and speaking skills of Limited English Proficient (LEP) soldiers.

There are between 800 and 1100 LEP soldiers enlisting each year who require training in English as a Second Language (ESL). The majority of these soldiers are Spanish speaking and have received five or more years of English instruction prior to joining the Army (Holland, et al., In Press). However, many report that English classes in their home country focused on reading and writing, leaving them with few listening or speaking skills. Therefore the Army generally provides these soldiers with six weeks of intensive English instruction before they begin Basic Training.

Most LEP soldiers benefit from the Army's ESL training and go on to succeed in Basic Training and Advanced Individual Training (AIT). However, there remain some who could profit from training in the use of language learning strategies after initial English training. Learning strategies, or specific ways that learners manipulate new material, are useful for remembering, learning, or problem solving (Brown, Bransford, Ferrara, and Campione, 1983). By making learners more aware of their own learning styles, instruction in learning strategies promotes independent learning. Strategies such as mnemonics, notetaking, and self-monitoring have been shown to enhance learning and retention for a variety of instructional tasks. Valuable research has already been completed, particularly by the Army, on the strategies that learners use while reading. Little, however, is known about the strategies that learners use to enhance listening and speaking in learning a second language. The Army has become interested in knowing more about this topic with respect to soldiers who require training in English as a second language.

Before training on learning strategies can be successful, we need to know, first, the strategies students use to understand and speak a second language and, second, the specific instructional tasks for which training in the use of learning strategies

See ESL page 6

Using NETWORK Services: A Case Study

By Evelyn H. Allin

In its first year of operation, the Inquiry Response Service, one of several information services offered by the Military Educators Resource NETWORK, responded to 390 requests for information. We decided to follow up one of these requests to find out how our response actually benefitted a military educator. We also felt it would be useful to show readers how our service can be used by other military educators.

Walter Campbell, the ESO at Ft. Meade, kindly agreed to talk with us about how he used the information we sent him in response to his request.

Ft. Meade is a tri-service post with approximately 9500 military personnel. The Education Center at this post near Laurel, Maryland offers a variety of programs ranging from basic skills to advanced degree programs, including foreign language study and off-duty vocational training.

In January 1979, the Ft. Meade Education Center was designated by the Department of the Army to help with an evaluation of the computerized PLATO Basic Skills Learning System, which was to be used, in this study, as a stand-alone mode of instruction. The students would have access to computer terminals, software, and a technician to assist them, but no teachers. The objective was to determine if the system, without teachers, could be used effectively Army-wide.

After this Army pilot program was completed, the Ft. Meade education center staff decided to use the PLATO system as a supplement to the existing teacher-directed basic skills instruction program. However, the teachers assigned to the program questioned whether the content of the PLATO materials reflected the goals and objectives of their basic skills program. Also, the teachers were unfamiliar with PLATO and computer-assisted instruction in general, and were interested in obtaining research studies that supported or refuted the use of PLATO in teaching basic skills.

As Mr. Campbell was wrestling with this problem, he received a brochure promoting MERN and decided to call the

See Services page 8

Educational Incentives

The Veterans Educational Assistance Program and the Army College Fund

By Frank Anderson

Educational incentives are a key factor in the Army's successful recruiting and retention of quality soldiers. Army Education Center staffs can take two steps to ensure that all soldiers know about the educational financing provided by the Army.

1. Work with commanders and supervisors so that they have a full understanding of the opportunities available to their soldiers.
2. Periodically remind supervisors and commanders to encourage their soldiers to visit the local education center, where trained counselors are ready to provide detailed information about the Army College Fund (ACF), Veterans Educational Assistance Program (VEAP), and other educational opportunities.

The Army College Fund, which was tested in FY 81 and fielded nationwide in FY 82, is the primary attraction for enlistment of higher scoring high school diploma graduates. ACF combines the basic Veterans Educational Assistance Program with an additional dollar "kicker" provided to the enlisted soldier's educational savings account at the Veterans Administration. While VEAP applies to both officers and enlisted personnel, the ACF is an enlistment incentive for enlisted soldiers only.

To understand the ACF, it is first necessary to understand basic VEAP. VEAP is the Vietnam-Era GI Bill follow-up contributory educational program implemented in January 1977. Both officers and enlisted soldiers who entered active duty on or after 1 January 1977 are eligible for up to $8100 in educational benefits. To earn this amount, the officer or soldier contributes $2,700, either by monthly allotment or lump sum. The Army matches the soldiers contribution on a two-to-one basis ($5,400).

To qualify for ACF, soldiers must be non-prior service, high school diploma graduates who score 50 or higher on the Armed Forces Qualification Test and enlist in a designated skill. To earn the ACF "kicker," soldiers must contribute to VEAP. Soldiers enlisted for three or four years may contribute from $25 to $100 per month (or in $5 increments between $25 and $100) up to a maximum contribution of $2,700. Two year enlistees may contribute up to $2,400. Soldiers must contribute a minimum of 12 consecutive months. See Figure 1 for "kicker" benefits that may be accrued. Figure 2 shows total amounts that will accrue when a three- or four-year enlistee participates in VEAP at $75 per month and a two year enlistee who contributes $100 per month.

The key to acquiring the above benefits is participation. Soldiers wishing to withdraw from the VEAP program for hardship or other reasons should be encouraged to reduce the amount of their monthly contribution rather than withdraw from the program completely. The amount of the ACF kicker depends on the number of months of participation rather than the actual dollar amount contributed. If a soldier requests a refund, he or she should be counseled about the impact of this step on the accrual of kicker benefits. ACF benefits cannot be earned without participation in VEAP.

Soldiers who cannot be convinced that they should reduce the amount of their monthly contribution rather than withdraw should be advised of another alternative. They may make a lump sum payment into the VEAP program before separation. A lump sum contribution of up to $2,700 can be made up to the day of separation from the Army. In order for the VEAP matching funds and the ACF kicker to accrue, the lump sum payment must be prorated for a minimum of 12 months. Kicker accrual is then treated as if the soldier had participated monthly. Although soldiers can lump sum up to the day they separate, they should be encouraged to lump sum no later than 60 days prior to separation to allow processing time in the Army and the Veterans Administration.

Further information can be obtained from Frank Anderson, HQDA Education Division (DAPE-MPE), Hoffman I, Room 1434, 2461 Eisenhower Ave., Alexandria, VA 22331; 202 325-9804.

Figure 1

ACF "Kicker" Benefits

	2-year enlistee	3- or 4-year enlistee
Benefit earned after 12 months participation in VEAP	$4,400	$4,800
Amount added to benefit for each month over 12 months participation	$300	$300
Maximum benefit	$8,000	$12,000

Figure 2

Example of Total Dollar Amounts Accrued Through VEAP and the ACF "Kicker"

2-year Enlistee			3- or 4-year Enlistee		
$100 per month x 24 months	=	$ 2,400	$75 per month x 36 months	=	$ 2,700
Army 2:1 matching	=	$ 4,800	Army 2:1 match	=	$ 5,400
Army "kicker"	=	$ 8,000	Army "kicker"	=	$12,000
TOTAL	=	$15,200	TOTAL	=	$20,100
24 monthly benefits	=	$633.33	36 monthly benefits	=	$558.33

Meeting the Higher Education Needs of Army Personnel

By Evelyn Allin and Brenda Lee Karasik

Military personnel have unique needs and problems associated with their pursuit of postsecondary education. Patterns of military assignment and the general mobility of military personnel make it unlikely that a student on active duty can complete an entire program at one institutional location. Many are transferred several times during service and many complete their programs following separation from service. Consequently, policies and practices that make credit earned at other institutions more readily transferable help meet the needs of the active-duty servicemember or the veteran who began college work while in the service.

Servicemembers Opportunity Colleges (SOC) and the Associate Degree Program (SOCAD) were established to remove unnecessary obstacles and to ensure that high-quality programs are available to military students.

Servicemembers Opportunity Colleges Program

The Servicemembers Opportunity Colleges program (SOC) was established in 1972 by civilian and military educators to strengthen voluntary education for servicemembers through better coordination of institutional administrative practices, and to improve access to and availability of academic programs. SOC aids the higher education community in responding to the particular needs and problems of military personnel and, in turn, helps the Armed Services understand the resources, limits, and requirements of higher education.

SOC institutions primarily confer the full range of associate and baccalaureate degrees. Many offer on-base programs and some serve military installations overseas. Other SOC institutional members act as "home institutions" for service members who, by prior agreement, earn academic credits elsewhere.

The SOC designation can apply to an entire institution, or only to specific divisions or degree programs. SOC members must be chartered or licensed by a State government or the Federal government and must be postsecondary institutions. More than 250,000 military students participate each year in programs of institutions designated as Servicemembers Opportunity Colleges.

SOC Principles

In carrying out their mission, SOC institutions are guided by two basic principles:

- SOC institutions perform within the conditions set forth in Department of Defense (DoD) directives and regulations on voluntary education programs for military personnel and do so within the constraints of military life.
- SOC institutions subscribe to and operate within criteria developed to increase access for students in the military and to assure that they receive high-quality instruction and institutional services.

Criteria for SOC Institutions

Drawn from the cumulative experience of institutions that have successfully offered programs to military students, SOC has established criteria that reflect a needed flexibility of approach, and maintain the quality of educational programs. To meet the criteria, SOC institutions must:

- Employ admissions procedures that ensure access to higher education for academically qualified military personnel.
- Evaluate learning gained through military experiences and award academic credit where applicable to the servicemember's program of study.
- Evaluate nontraditional learning and award academic credit for such learning where applicable to the servicemember's program of study.
- Evaluate requests for inter-institutional transfer of credits and accept such credits whenever they are appropriate to the servicemember's program and consistent with the institution's curriculum. (To minimize loss of credit hours and duplication of prior learning.)
- Provide flexibility to servicemembers in satisfying residency requirements by making adjustments for military students who transfer.
- Designate personnel with appropriate academic qualifications and experience to administer and supervise their SOC related activities, and to develop policies and procedures appropriate to the scope of their voluntary education programs.
- Provide educational services for veterans.

Servicemembers Opportunity Colleges Associate Degree Program (SOCAD)

The Servicemembers Opportunity Colleges Associate Degree (SOCAD) program for military personnel is provided by cooperating networks of civilian colleges and Army installations and is designed to relate NCO and warrant officer job specialties to college curriculums. The SOCAD program offers opportunities for soldiers to earn college credits for skills and knowledge acquired in the Army and to obtain an associate degree in any one of a variety of fields corresponding to military job specialities. SOCAD does this by linking up civilian degree-granting institutions that have agreed to common curriculums in specific occupational fields—curriculums developed by

See **Higher Ed** page 4

Higher Ed from page 3

academic experts, under the direction of SOC, the American Council on Education, and by Army Specialists in those career fields.

The curriculums are offered to servicemembers in their off-duty hours, on military installations in the United States and overseas, or on easily accessible campus sites. Although the program currently is focused on the education needs of the Army, it is being structured so that it could be adapted for the other services.

The SOCAD program currently offers opportunities to earn associate degrees in 15 occupational fields, which are listed in the accompanying box. A flexible associate degree is also available to servicemembers in general studies and liberal arts.

Procedures

A participating institution agrees to accept as a candidate for an associate degree any student who meets the academic requirements of the curriculum and who shows reasonable promise of being able to meet the degree requirements. The college completes an official student evaluation, which acts as a roadmap or program for earning an associate degree. The evaluation can grant credits for work already completed at the enrolling institution or other colleges and includes credits awarded for MOS and service schools training. The college agrees to award an associate degree upon successful completion of the program even if the soldier is transferred (or is separated from active military duty) and has to take courses at another institution.

The SOCAD program is located around the world and is unique in higher education today. The colleges that participate have agreed to:

- limit the residency requirement to one-quarter of the total program. (can be completed at any time.);
- accept nontraditional credit;
- complete an official evaluation on a Student Agreement Form for each student;
- provide sequential courses available off duty to accomodate the military mission; and
- guarantee transferability of credits among colleges within each network.

When they join the SOCAD networks, the colleges also agree to provide professionally trained and specifically qualified counselors to advise servicemembers on enrollment, academic matters, and financial aid. The colleges make sure that educational policies for military students are comparable to those for other students in similar programs.

Among other ways that SOCAD colleges try to help soldiers earn an associate degree is to try to arrange for continued studies by servicemembers stationed at small or isolated posts that have limited or no facilities for formal instruction.

Over 6000 students are now enrolled in SOCAD. The networks will continue to increase in size as new needs are identified at the installation level. Also, curriculums will be reviewed and revised, and new networks will be developed as needed. To keep up with these changes, the SOCAD Handbook will be updated biannually.

Education center staff need to ensure that soldiers are encouraged to visit their local education center and become well informed of their educational opportunities in the Army.

For further information, contact Brenda Lee Karasik, HQDA Education Division, (DAPE-MPE), Hoffman I, Room 1434, 2461 Eisenhower Ave., Alexandria, VA 22331; 202 325-9805

SOCAD Networks

Accounting
Automotive Maintenance
Aviation Maintenance
Communications Electronics
Computer Maintenance
Construction Technology
Data Processing
Diesel Maintenance
Digital Electronics
Food Service Management
Law Enforcement Services
Management Science
Medical Records Technology
Office Management
Transportation Technology
Flexible (General Studies)

Publications Available Free from the NETWORK

Newsletters:
NETWORK Circuit No. 1, July 1983
NETWORK Circuit No. 2, October 1983
NETWORK Circuit No. 3, February 1984

NETWORK Vanguard Nos. 1, 2, and 3
(Current Journal Tables of Contents)

NETWORK Fact Sheets
No. 1 Computer Literacy and the Army Educator
No. 2 The NETWORK Inquiry Response Service
No. 3 Evaluating Instructional Software

RESOURCES

A portion of the NETWORK's database contains information on ongoing research efforts. The following citations from the NETWORK's database are five studies supported by the U.S. Army Research Institute for the Behavioral and Social Sciences. These studies reflect the most current efforts related to learning strategies training and its links to Army basic skills educational programs.

Development and Evaluation of Computer-Based Learning Strategy Training Modules. Principal Investigator: Dr. Donald Dansereau, Texas Christian University.

The focus of this research effort is the development and evaluation of two computer-based learning strategy modules that incorporate training on self-monitoring and self-management of learning strategies. The modules combine two instructional techniques: computer-assisted instruction and cooperative learning (CACL) and focus on training students in summarization and networking strategies. Each module will be formally evaluated by comparing CACL training with lecture text training and with students who receive no training in these techniques. Final modifications of the two CACL modules will be based on the outcomes of experimental evaluation studies. As a result of this study, two computer-based modules that focus on the training of summarization learning strategies and networking learning strategies will be available.

Point-of-Contact: Rocco P. Russo, Basic Skills Resource Center, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667.

Embedding Learning Strategies in Well-Marked Texts for Military Training Materials. *Principal Investigator:* Dr. Beau Jones, Chicago Public Schools.

The purpose of this research is to develop a training manual which teaches military curriculum writers the following: (1) how to write well-organized, clearly marked texts and graphic materials, (2) how to embed learning strategy instruction in the instructional text, and (3) how to develop the component parts of a mastery learning instructional model. An analysis of instructional objectives and instructional texts will be undertaken to identify the appropriate type of text structure needed to support particular types of instructional objectives. This analysis will then proceed to identify appropriate learning strategies needed for learning different text instructional objective combinations. These analyses are based on research findings from cognitive psychology and from practical application in designing and implementing Mastery Learning and Content Driven Comprehension Instruction in the public schools.

Point-of-Contact: Dr. Richard Kern, Army Research Institute, 5001 Eisenhower Avenue, Alexandria, VA 22333, (703) 274-5538.

Self-Motivational Skill Training for Improving Performance in Army Technical Training. *Principal Investigator:* Dr. Barbara McCombs, Denver Research Institute.

The purpose of this study is to evaluate the efficiency and effectiveness of computer-assisted instruction (CAI) in training self-motivational skills and reducing instructor requirements. Previous research with the Self-Motivational Skill Training package found that students receiving this training exhibited higher motivation and higher achievement scores during the military technical training than their peers in the control group. In this research the training was presented by specially trained instructors. Research presently undertaken will design CAI materials to present different portions as well as all of this training. This research will then test the efficiency and effectiveness of CAI, compared with the training presented by instructors, in presenting all or part of this training. Based on these comparisons, recomendations will be developed for the most efficient and effective use of CAI and instructors for delivering this training.

Point-of-Contact: Dr. Richard Kern, Army Research Institute, 5001 Eisenhower Avenue, Alexandria, VA 22333, (703) 274-5538.

Research in Reading Comprehension. Principal Investigator: Dr. M. C. Wittrock, University of California, Los Angeles.

This study will investigate generative reading strategies that will increase the ability of educators to teach people, especially low ability young adults, to read with understanding. The procedure involves conducting three experimental studies that investigate generative reading strategies that are most effective for various types of text, including technical instructional materials. Working with military personnel, studies one and two will concentrate on identifying the generative reading strategies that facilitate comprehension of different types of text and determine the relevance and transfer of these strategies to technical training materials and problems in reading comprehension. Study three will build upon the results of prior studies and lead to the construction of self-instructional materials procedures or a sequence of instructional materials, i.e. computer-assisted instruction (CAI), that teach generative reading strategies. Generative Reading Strategy Training materials will be available as a result of this study.

Point-of-Contact: Rocco P. Russo, Basic Skills Resource Center, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667.

A Study of Learning Strategies for Acquiring Skills in Speaking and Understanding English as a Second Language. Principal Investigator: Dr. J. Michael O'Malley, InterAmerica Research Associates.

Through classroom observations and interviews with teachers and students of English as a second language (ESL), the range and characteristics of learning strategies used in the acquisition of speaking and understanding skills by second language learners will be delineated. In addition, teaching modules ebedding learning strategies will be developed and tested. Experiental tests will determine, for specific learning activities, whether or not different combinations of learning strategies enhance performance on outcome measures designed to assess English language skills. (See article on page 1 of this newsletter.)

Point-of-Contact: Rocco P. Russo, Basic Skills Resource Center, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667.

By making learners more aware of their own learning styles, instruction in learning strategies promotes independent learning.

ESL from page 1

makes a difference in overall listening and speaking proficiency. At least some of what has been found for strategies in reading can be applied to the areas of listening and speaking. Yet there remains much additional information about applications of learning strategies to second language learning that can be discovered by research. The Language Learning Strategies project was motivated by these very needs.

The Language Learning Strategies Project

The BSRC study of strategies in second language learning involved two phases: (1) a descriptive phase, in which interviews were performed with ESL students and Language students and teachers to establish the nature of strategies that students use with specific tasks, and (2) an experimental phase, with actual training to determine the effectiveness of specific strategies with different language tasks. Both phases were conducted with the ESL population of two public school systems in Virginia. The same phases are to be conducted with the ESL population of at least one Army installation.

As part of the descriptive data collection effort, ESL students in two public school systems in Virginia were interviewed to identify strategies they used in performing activities common to ESL classrooms. These activities include understanding a teacher's short lecture and delivering an oral book report to the class. By asking students for specific details on what they did to speak or understand more effectively, the BSRC research team compiled an extensive list of strategies used in learning a second language. From this list of strategies and also strategies gleaned from the literature, strategies were selected for experimentation with speaking and listening tasks in Phase II of the study. A pilot test was conducted in one school with ESL students who had not participated in the interviews. These students, who shared many characteristics with the military ESL population, were all judged to be at the intermediate level of overall English proficiency, and were of different ethnic origins, such as Hispanic, Asian, Middle Eastern, African, and European.

The students were randomly assigned to form two experimental groups and one control group. The experimental groups were shown how to use strategies and why they were important. They were then instructed to use the experimental strategies deliberately with three language tasks. The control group subjects were not provided learning strategies instruction but were told to perform these tasks as they normally did.

The Tasks and Strategies

Three tasks that are typical of ESL classes were selected and paired with instruction on promising learning strategies. Tests in listening comprehension, speaking, and vocabulary were administered before and after the learning strategies had been taught.

Language Task	Learning Strategy
Vocabulary	Imagery and Grouping
Listening	Selective Attention, Notetaking, and Cooperation
Speaking	Functional Planning and Cooperation

• **Vocabulary.** The strategies of *imagery* and *grouping* were used in tandem to enhance the students' learning and retention of new vocabulary. While many language teachers and students recommend against learning vocabulary in isolation, the reality of language learning in a classroom is that students inevitably end up with long lists of vocabulary to learn. To facilitate this process, students in the two experimental groups were taught, first, to *group* new words according to some common semantic characteristics, and second, to *imagine* the words in each group interacting in some meaningful way. For example, the words "wave, dock, oar, and rope" could be grouped into a category entitled "The River" and a dramatic mental image created by the student to include all of the words in the group. The rationale behind using these strategies to learn new vocabulary was that the student would become an active processor of information, manipulating the new words instead of merely receiving them passively. Further, recall of individual words would be facilitated by calling forth the mental picture the student had vividly created.

• **Listening.** The second language task, listening to short lectures, was paired with the strategies of selective attention, notetaking, and cooperation. These strategies were selected in order to equip the students for learning situations outside the classroom where no advance help such as focusing on key words before the lecture is available. Realistically speaking, ESL students must frequently comprehend short explanations on their own. Therefore, the students in one experimental group were taught to listen selectively for expressions that appear in ordinary lectures or demonstrations and

that signal the number of steps involved in a process or the number of important ideas to be discussed. For example, students were taught to focus on such expressions as *the main thing is . . . , the most important idea is . . . , first you . . . , next you . . .* and *finally . . .* In this way, they were alerted to important ideas or steps about to be introduced and then could use the second strategy, notetaking, to record the item in abbreviated form. As a final step, students were encouraged to check their notes against those of their classmates in order to ensure the completeness and correctness of both.

• **Speaking.** The third language activity in the experimental test was designed to enhance the speaking ability of the students through functional preparation and cooperation. Functional planning required the students to examine carefully the oral task before them and then to determine if they knew the language necessary to accomplish the task. The teacher and the class filled in gaps that occurred in the students' repertoire of available language. This was coupled with practice sessions in small groups, where each student presented his/her speech and the others were responsible for providing corrective feedback regarding the delivery, comprehensibility, and the organization of the report, and the appropriateness of language. This cooperative process was felt to be important for using one's peers as a valid language resource in addition to the teacher or the textbook.

Results and Their Relevance for the Army

The experimental test in the public schools has just recently been completed, and preliminary results indicate that the conscious use of these strategies enhances comprehension, retention, and communication. Particularly promising are the strategies of selective attention and functional planning. These are strategies that students can use on their own for any listening or speaking task, and may provide the first steps toward making the students effective and independent learners.

The information obtained through the interviews and actual experimental testing of the strategies in the public schools is directly relevant to the current needs of the Army. LEP recruits can be taught the conscious use of strategies as an effective means of increasing their language learning both in the classroom and outside as they perform their military duties. Phase I, where the range and frequency of strategy use is obtained via interviews, is currently being conducted with an ESL population in the Army and within the next few months, experimental treatment conditions will be developed and implemented with a similar target population. The information obtained should be extremely valuable to the Army as decision-makers contemplate ways in which to enhance the listening and speaking capabilities of LEP recruits.

The research effort described in this article is being conducted by the Basic Skills Resource Center (BSRC) at InterAmerica Research Associates, Inc. in Rosslyn, Virginia. The BSRC is funded by the U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, Virginia under contract No. MDA-903-82-C-0169

The following reports will be produced

1. *Review of literature on use of learning strategies in acquiring English as a second language*
2. *Current use of learning strategies by ESL students and teachers in public high school settings*
3. *Effectiveness of learning strategy training for ESL students in public high schools*
4. *Current use of learning strategies by Army BSEP ESL students*
5. *Effectiveness of learning strategy training for Army BSEP ESL students*

For more information, contact Dr. Rocco Russo, Basic Skills Resource Center, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667

References:

Brown, A. L., Bransford, J. D., Ferrara, R. A., and Campione, J. C. Learning, remembering, and understanding. In J. H. Flavell and E. M. Markham (Eds.), *Carmichael's Manual of Child Psychology*. New York: Wiley, 1983

Holland, V. M., Rosenbaum, H., Stoddart, S., Redish, J. C., Harman, J., Oxford-Carpenter, R. L. *Evaluation as a Second Language Program in Basic Skills Education Program I*. Research Report 1359. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. In Press

How to Reach The NETWORK

Requests can be made by phone or by mail. NETWORK staff are available to receive calls between 9:00 a.m. and 4:30 p.m. eastern time at (703) 522-0667, or use AUTOVON 851-3350 and ask for "off-net government official call to 522-0667." A telephone message service is available at the same number at all other times. Written requests may be sent to:

Military Educators Resource NETWORK
1555 Wilson Boulevard, Suite 508
Rosslyn, VA 22209

Services from page 1

NETWORK to determine if anyone had undertaken objective evaluations of the PLATO basic skills software and to obtain some general guidelines on evaluating courseware.

In respone to this request, our Information Specialist sent:

- Twenty relevant citations from the Educational Resources Information Center (ERIC), the National Technical Information Service (NTIS), and the National Clearinghouse for Bilingual Education (NCBE) databases;
- Names and addresses of four centers that evaluate instructional software;
- A report entitled, "PLATO System Spurs Baltimore Students to New Achievements."
- The name, address, and telephone number of a contact at Control Data Corporation, the producer of PLATO.

Based on a review of the twenty citations which included short abstracts of *research on the use of the PLATO Basic Skills System*, the teachers began to accept the idea of using PLATO. Mr. Campbell wrote back to the NETWORK:

> Our four teachers of Basic Skills and the four learning laboratory monitors (all users of PLATO) had expressed doubts about the content validity of PLATO software. They wanted to see what other educators thought of the software, and to find out what other studies of the software already existed. After reading the extracts you sent, they already feel more satisfied.

Education Center staff wished to emphasize that PLATO is a useful supplement to their basic skills program. However, teachers attuned to the individual educational needs of the student and available to give encouragement are essential to the success of the program.

Mr. Campbell volunteered information about additional uses of NETWORK services made by the Education Center:

- Working in conjunction with the local library, the education center staff also acquired copies of several documents that were identified and cited in the materials provided by the NETWORK.
- By reading a *NETWORK Fact Sheet*, he learned about some testing issues related to the Ft. Meade programs.
- A senior member of his staff used the Journal Tables of Contents in the *NETWORK Vanguard* to identify potential topics for teacher inservice activities.

Campbell added that one of his staff used these materials as the basis for initiating a self-instruction program that led to a job as a software librarian with a major computer company.

We hope this example gives our audience some suggestions for how to use the NETWORK's services and that you will contact the NETWORK with your questions; our staff are always eager to help. If you do use our inquiry response service, we would like to hear how you use the information we provide so that we can share the ideas with others.

NETWORK Circuit is published quarterly by the Military Educators Resource NETWORK. It facilitates the exchange of information among military educators throughout the world. The NETWORK is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the U.S. Army Research Institute and the Adjutant General's Office.

The NETWORK is operated by InterAmerica Research Associates, Inc., pursuant to Contract No. MDA 903-82-C-0169. The views expressed in this publication do not necessarily reflect the views of the sponsoring agencies. This work is not copyrighted. Readers are free to duplicate and use all or any portion of it. In accordance with accepted publication standards, InterAmerica requests that proper credit be given. For additional information on the NETWORK's resources and services contact: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, Virginia 22209, (703) 522-0667.

Rocco P. Russo, BSRC Director

Roberto Moreno, President, InterAmerica Research Associates, Inc.

Military Educators Resource Network
1555 Wilson Boulevard, Suite 508
Rosslyn, Virginia 22209

APPENDIX G

Copies of the NETWORK Fact Sheet

NETWORK FACT SHEET

No. 1 August 1983

Computer Literacy and the Army Educator

The rapidly growing computer industry is fast becoming a viable component in education and training settings. Computers are frequently being used to improve many aspects of learning, teaching, and managing instruction. All educators, including military educators, need to understand the educative potential of today's electronic age. Thus, educators as well as students are faced with acquiring an understanding of computers in educational settings. As such, they must become computer literate.

Numerous attempts to define computer literacy can be found in the current professional literature. Definitions range from the narrow, involving only the ability to communicate with a computer, to the comprehensive, which in addition includes the ability to evaluate computer applications and an understanding of the impact of the computer on our society. Although the definitions vary, there seems to be a consensus that computer literacy is a basic skill and essential for functioning adequately in our emerging technological society.

The Association for Supervision and Curriculum Development (Gawronski and West, 1982) has defined computer literacy as the knowledge of

- How computers are used.
- What a computer can and cannot do.
- What a program can and cannot do.
- How computers work.
- How to use a computer.
- The impact of computers on society.
- How computers develop skills of decisionmaking and coping with change, and
- Introduction to or awareness of programming.

In addition, educators need to know

- Sources of information (books, journals, organizations),
- Methods of critiquing software,
- Sources of software,
- Occupational outlook for computer literate people, and
- Classroom applications and the possible evolution of new roles for teachers and students.

How Computers Are Used in the Educational Setting

The use of computers in the educational setting can be summarized as follows (Charp et al., 1982):

1. *As an Aid in Teaching Problem Solving.* The need for a clear definition of a problem and the step-by-step procedure necessary to solve a problem using a computer provides an excellent technique for teaching problem solving skills.
2. *As a Course of Instruction.*
3. *Word Processing.* The ability to easily manipulate text allows a student writer to focus on content and style.
4. *Computer-Assisted Instruction.*
   - *Drill and Practice.* Supplementary to the regular classroom instruction, this application was first used in math, but is now available in many areas including vocabulary, mythology, driver education, geography, and science.
   - *Tutorial.* This approach or system assumes the major burden of instruction. The student is led through material in an orderly way; the computer monitors the student's responses and branches within the program according to the student's needs as demonstrated by the student's responses.
   - *Simulation.* In this computerized instructional system the key aspects of an environment are represented and can be affected by a student's decisions to change specific parts. Cause and effect can be approximated; the student is actively involved and makes decisions that affect the eventual outcome.
5. *Computer-Managed Instruction.* This educational use of the computer provides efficient management of the classroom by assigning instructional units, monitoring individual student progress, diagnosing learning problems, and choosing instructional units for individuals or groups much more quickly and accurately. An example of educational management systems is the Michigan Teacher Support System.
6. *Guidance and Counseling.* Systems are available that aid in self-assessment of skills and interests, and identification of short- and long-range goals. Current information on educational opportunities, financial resources, and occupational opportunities is also provided by the computer.

Steps in Implementing Computers in the Educational Setting

(The following outline is derived from *A Planning Guide to Successful Computer Instruction* published by Electronic Courseware Systems, Inc.

Refer to this guide for elaboration of the topics presented here.)

1. *Planning a Computer Instruction Site.* Planning is a critical component of success in implementing computerized instruction. The following items suggest what must be addressed when preparing a development proposal, identifying resources and support, and developing a plan of action.

   - Objectives
   - Rationale/Justification
   - Resources available/needed
   - Budget/Finances
   - Evaluation scheme
   - Implementation timetable
   - Administrative support
   - Staffing
   - Opposition
   - Existing computer services
   - Gathering support
   - Scheduling/Management of computer operations

2. *Selecting Hardware.* Listed below are criteria to consider when selecting computer equipment.

   - Speed of interaction
   - Ease of operation
   - Dependability and durability
   - Quality of graphics
   - System support (availability of help with hardware problems)
   - Power of language(s) available on computer
   - Requisite peripheral hardware
   - Available courseware
   - Cost of maintenance
   - Purchase price
   - Quality of documentation

3. *Selecting Courseware.* Suggested criteria for the selection of instructional programs are:

   - Presentation techniques
   - Visual effects and timing
   - Student/machine interaction
   - Teaching strategies
   - Use of special function keys
   - Richness of branching
   - Overall style and organization
   - Subject matter accuracy
   - Technical/mechanical functioning
   - Supporting documentation

Computers are being used effectively in the educational environment. They permit individualization of instruction to an extent impossible to achieve using traditional classroom techniques. This Fact Sheet is intended to be a brief orientation for educators who wish to acquire computer literacy skills relevant to education and training. The references below are just a few of the voluminous materials available to aid in the use of computers in education.

NETWORK Fact Sheet is published by the Military Educators Resource NETWORK. The NETWORK is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the U.S. Army Research Institute and the Adjutant General's Office.

The NETWORK is operated by InterAmerica Research Associates, Inc., pursuant to Contract No. MDA 903-82-C-0169. The views expressed in this publication do not necessarily reflect the views of the sponsoring agencies. This work is not copyrighted. Readers are free to duplicate and use all or any portion of it. In accordance with accepted publication standards, InterAmerica requests that proper credit be given. For additional information on the NETWORK's resources and services contact: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, Virginia 22209 (703) 522-0667.

Rocco P. Russo, BSRC Director

Juan J. Gutierrez, President, InterAmerica Research Associates, Inc.

REFERENCES

Association for Educational and Training Technology. *International Yearbook of Educational and Training Technology 1982-83.* New York: Nichols Publishing Company, 1982. 537 p.

Charp, Sylvia, et al. *Educator's Guide to Use of Computers in Education.* Washington, D.C.: Association for Educational Data Systems, 1982. 61 p.

Chartrand, Marilyn J. and Constance D. Williams. *Educational Software Directory: A Subject Guide to Microcomputer Software.* Littleton, Colorado: Libraries Unlimited, Inc., 1982. 292 p.

Dean, Christopher and Quentin Whitlock. *A Handbook of Computer-Based Training.* New York: Nichols Publishing Company, 1983. 259 p.

Gawronski, J.D. and Charlene E. West. "Computer Literacy." *ASCD Curriculum Update,* October, 1982.

Myers, Darlene, ed. *Computer Science Resources: A Guide to Professional Literature.* White Plains, New York: Knowledge Industry Publications, Inc., 1981. 346 p.

Peters, G. David and John M. Eddins. *A Planning Guide to Successful Computer Instruction.* Champaign, Illinois: Electronic Courseware Systems, Inc., 1981. 81 p.

Pitts, Marcella R. *The Educator's Underutilized Microcomputer Survival Manual.* Washington, D.C.: Council for Economic Development and Research, 1981. 58 p.

Journals

Computer: The Journal for Progressive Computing. COMPUTE! Magazine, P.O. Box 5406, Greensboro, NC 27403.

The Computing Teacher. International Council for Computers in Education, 135 Education, University of Oregon, Eugene, Oregon 97403.

Educational Technology. Educational Technology Publications, Inc., 140 Sylvan Avenue, Englewood Cliffs, NJ 07632.

Electronic Learning. 902 Sylvan Avenue, Englewood Cliffs, NJ 07632.

Journal of Computer-Based Instruction. ADCIS International Headquarters, 409 Miller Hall, Western Washington University, Bellingham, Washington 98225.

Omni. Omni Online, Inc., 11 Tanners Lane, Weston, CT 06880.

THE Journal (Technological Horizons in Education). Synergy, Inc., 7 Spruce St., P.O. Box 992, Acton, MA 01720.

Organizations

Educational Products Information Exchange Institute/Consumers Union, P.O. Box 620, Stony Brook, NY 11790.

Northwest Regional Education Laboratory, 300 SW Sixth Avenue, Portland, OR 97204.

NETWORK FACT SHEET

No. 2 January 1984

The Network Inquiry Response Service

We would like to encourage you to take advantage of the *Inquiry Response Service* that is provided by the Military Educators Resource NETWORK. The NETWORK is evolving to help Army educators with the challenges they encounter in providing effective educational programs. We aim to keep Army education professionals informed of current research and significant developments in the adult education field. The NETWORK's *Inquiry Response Service* has been designed to answer your specific needs for educational information.

How to Contact The NETWORK

You can contact us with your requests by phone or by mail. NETWORK staff are available to receive calls between 9:00 am and 4:30 pm eastern time at (703) 522-0667; or use AUTOVON 851-3350 and ask for "off-net government official call to 522-0667." A telephone message service is available at the same number at all other times. Written requests may be sent to:

Military Educators Resource NETWORK
1555 Wilson Boulevard, Suite 508
Rosslyn, VA 22209

Information Requests Received by The NETWORK

To let you know how other Army education professionals are using The NETWORK's *Inquiry Response Service*, a number of the information requests The NETWORK has received and answered are presented below.

Instructional Materials

- I am interested in knowing what other ESOs are doing and what materials they are using in their BSEP II programs — in order that my program might be improved. All areas of BESP II are appropriate but reading is the primary problem here.
- Our installation is in the process of revising our basic skills program, so I am interested in looking at various curricular materials (reading, writing, ESL, etc.) that might provide direction for our revisions.
- Please send a list of materials useful for remedial writing/language skills classes — not for ESL students, but for those needing a refresher in grammar, capitalization, spelling, punctuation, etc.
- I am interested in obtaining some general information about ESL programs that can be incorporated into existing program.

Instructional Planning

- I would like a literature search on the quality of learning, insofar as comprehension and attention span are related. I am investigating the possibility that switching learning modes may increase attention span.
- I'd like to identify self-paced instructional materials for basic skills, especially for reading, math and languages (not ESL).
- Who delivers education courses or programs via satellite? I am interested in for-credit courses.
- I want a literature review on pictorial imagery as it relates to reading comprehension.
- I would like information about the effectiveness of self-paced instruction, caveats to be aware of in implementation and information about which materials work better than others.

Computer-Assisted Instruction

- Has anyone undertaken objective evaluations of the PLATO basic skills software?
- I would like some general guidelines on evaluating software/courseware.
- I have heard of a DANTES-funded project at the University of Missouri to design computer-based correspondence courses. I would like more information on this and some points of contact.
- We have recently had PLATO terminals installed, so I would like to locate materials to assist in understanding and using the system.
- I need general information, in way of an overview of the use of computers in education, the available hardware and software, and guidelines for evaluation of equipment and courseware.
- For my own use, please forward materials which assist those outside the computer field in becoming computer literate.
- Please send an annotated bibliography on computer-assisted instruction.
- Please send information on the comparative pricing of software for teaching technical skills, math and languages.
- Please do a literature search on the attitudes of instructors, administrators, etc. (users that are not students) toward computer-assisted instruction.
- Please send general information/articles on computer-based education.
- I would like a listing of PLATO's basic skills programs.
- I would like to locate materials which describe the content validity of PLATO software.
- I am interested in materials in the area of CAI, self-paced or individual instruction, which could be used on an Apple II.
- I am interested in software used for basic skills training (e.g., math, literacy, etc.).

Other Areas

- What is the distribution of reading grade levels for 18-year olds/college level individuals in the U.S.? I want a graph showing a breakdown by sex.
- What is the response of counselors when the expected outcome of their counseling is not achieved?
- Please forward a list of educational associations in the Washington, DC Metro area.
- I am interested in the measurement of basic skills program outcomes, for both the Army and other military services.
- Can you find information concerning a useful predictor for the GT subtest? The SCAT is no longer useful since renorming.
- I am interested in any publications on mentoring in the military.
- I am interested in identifying predictive validity of tests, particularly as related to the TABE (Test of Adult Basic Education).
- I would like any information on the history of the development of basic skills programs in the Army.
- I would like a list of Army education programs.
- I am interested in information about issues management and crisis management related to educational settings.
- I would like to see examples of needs assessment forms used in the education sector.
- I am interested in information on the study of stress factors relating to the performance/endurance of special forces personnel.
- I would like information about the skill levels of high school students.
- How could I obtain a copy of the GAO report on the Army Basic Skills Education programs?

What to Expect: A Sample Request and NETWORK Response

The NETWORK staff have received a number of requests that focus on the identification of information related to computer-assisted instruction, especially the PLATO system. A summary of a typical request and response is presented below.

Request: Our Education Center has just installed several PLATO terminals. I am interested in knowing if anyone has undertaken objective evaluations of the PLATO basic skills software. In addition, since the system is new to our staff, I am interested in general information about the PLATO system, which would assist our staff to better understand the uses of this system.

Response: A customized database search was conducted and citations and abstracts of relevant guidebooks, reports, and articles were identified and reproduced. Two of these citations appear here as an example. In addition, the names and addresses of several organizations which specialize in the evaluation of educational software were identified and were included in the package of information prepared in response to this request.

Sample Citations from NETWORK Database

ACCESSION NUMBER	ER00160
PERSONAL AUTHOR	Brown, Betty
TITLE	PLATO Promises Grade Gains
PUBLICATION TYPE	080.143
SERIES STATEMENT	Electronic Education, V1 NB P10-12 Oct 1981
PUBLICATION DATE	811000
LANGUAGE	Eng
PHYSICAL DESCRIPTION	3P
AVAILABILITY	Available from ERIC Document Reproduction Service
PRICE AND ORDER NO(S)	EJ-968-638
GOVERNMENT STATUS	Not govt
ABSTRACT	DESCRIBES A FIELD STUDY IN WHICH THE PLATO BASIC SKILLS LEARNING SYSTEM WAS USED IN REMEDIAL COURSES FOR HIGH SCHOOL AND ADULT EDUCATION STUDENTS AT THREE FLORIDA HIGH SCHOOLS ANALYSIS SHOWS THAT THE PLATO SYSTEM IS EFFECTIVE AND COST EFFICIENT
DESCRIPTORS	COMPUTER-ASSISTED-INSTRUCTION REMEDIAL-MATHEMATICS, MATHEMATICS-ACHIEVEMENT, PROGRAM-EVALUATION COST-EFFECTIVENESS
IDENTIFIERS	PLATO, CONTROL DATA-BASIC-SKILLS-LEARNING SYSTEM
DATABASE FILE	BIB
DATE ENTERED	04/07/83
ACCESSION NUMBER	ER00185
PERSONAL AUTHOR	Himwich, H. A.
TITLE	A Comparison of the TICCIT and PLATO Systems in a Military Setting
PUBLICATION TYPE	141
PUBLICATION DATE	770000
LANGUAGE	Eng
PHYSICAL DESCRIPTION	31P
AVAILABILITY	Available from National Technical Information Service
PRICE AND ORDER NO(S)	PC A03/MF A01 AD-A051 696/3SL
GOVERNMENT STATUS	Not govt
ABSTRACT	DESCRIBES A COMPUTER BASED EDUCATION PROJECT IN WHICH THE AUTHORING CONSTRAINTS AND THE COURSEWARE DEVELOPMENT COST OF THE PLATO AND TICCIT SYSTEMS WERE COMPARED
DESCRIPTORS	COMPUTER ASSISTED INSTRUCTION MILITARY TRAINING COMPARATIVE ANAYSIS COSTS
IDENTIFIERS	PLATO TICCIT COMPUTER SYSTEM
DATABASE FILE	BIB
DATE ENTERED	04/09/83

How You Can Help Us Help You

To answer your questions as completely and efficiently as possible, we are developing a computerized database that contains descriptions of relevant articles, papers, monographs, books, pamphlets, newsletters, etc. However, to give you the best service, we need *your help*. There are two ways you can help us help you. First, contact the NETWORK with your information requests. Your requests guide NETWORK staff in selecting the topics of documents to be cited and abstracted in the NETWORK database. The second way you can help is by letting us know now what subject areas are of special interest to you. Attached is a list for you to check off those subject areas that are of primary interest to you. Please complete, place in a government franked envelope, and mail using the enclosed label.

If there are other educational personnel that might benefit from The NETWORK's Inquiry Response Service, please photocopy this list and pass it on.

Subject Area Checklist

To further develop the NETWORK computerized database, we need to know the topics and/or subject areas that are of primary interest to you. From the list below, indicate those areas for which information would be beneficial to you in the operation of your ACES programs. (Check all that apply.)

Education

- ☐ Audiovisual courseware evaluations
- ☐ Audiovisual equipment evaluations
- ☐ Basic skills curricula, instructional materials and tests
- ☐ Computer-assisted instruction
- ☐ Curriculum development
- ☐ Curriculum evaluations
- ☐ Educational achievement levels
- ☐ Educational research
- ☐ Functional basic skills, including job-related training, occupational planning, functional literacy and evaluation techniques
- ☐ Individualized instruction
- ☐ Instruction design
- ☐ Literacy standards
- ☐ Psychology of learning
- ☐ Quality assurance for adult programs
- ☐ Self-paced instructional programs
- Specific skills:
  - ☐ Computation
  - ☐ ESL
  - ☐ Listening
  - ☐ Reading
  - ☐ Writing
  - ☐ Psychomotor
  - ☐ Daily life coping
- ☐ Teacher evaluation
- ☐ Teaching methods
- ☐ Tests and measurements
- ☐ Tuition rates
- ☐ OTHER (specify): _____

Computer Systems

- ☐ Computer equipment evaluations
- ☐ Computer systems compatibility
- ☐ Computer systems evaluation
- ☐ Software evaluations
- ☐ OTHER (specify): _____

Counseling

- ☐ Career maturity
- ☐ Career planning and guidance
- ☐ Civilian labor force market data
- ☐ Computer-based guidance systems
- ☐ Counseling methods
- ☐ Cross-cultural counseling
- ☐ Information of colleges, vocational schools and other educational institutions
- ☐ OTHER (specify): _____

Management

- ☐ Contracting requirements
- ☐ Economic analysis; cost-benefit analysis; effectiveness analysis
- ☐ General management skills
- ☐ Marketing educational programs
- ☐ Needs assessment techniques
- ☐ Program and curriculum evaluation techniques
- ☐ Research methods
- ☐ OTHER (specify): _____

Government/Military Information

- ☐ Demographic data
- ☐ Directives and regulatory information
- ☐ Federal budget appropriations
- ☐ Research and programs in other Army installations
- ☐ Research and programs in other branches of the military
- ☐ State educational agencies policies; educational requirements; legal issues
- ☐ OTHER (specify): _____

Title/Position: _____

Military Service (circle one): Air Force Army Coast Guard Marines Navy

Military Installation

_____

Thanks for your help!

Once completed, place this checklist in a government franked envelope and mail using the enclosed label.

NETWORK FACT SHEET

No. 3 February 1984

Evaluating Instructional Software

With the growing number of computers used for instruction, it is important to ensure that they are used to their best advantage. The qualities that differentiate computer instruction from textbooks is what should be contained in educational software. Computerized instruction has a unique contribution to make because it provides (Walker, 1983):

- More active learning;
- More varied sensory and conceptual modes;
- Less mental drudgery;
- Learning nearer the speed of thought;
- Learning better tailored to individuals;
- More independent learning;
- Better aids to abstraction.

However, according to Kenneth Komoski of the Educational Products Information Exchange (EPIE) Institute, much of the software now being used does not begin to realize the potential provided by the present technology. Mr. Komoski contends that, to meet their needs, educators should demand that computer courseware provide (Euchner, 1983):

- Emphasis on higher order skills such as analysis and synthesis material;
- Graphics used as an integral part of instruction rather than supplements to the text, which are often distracting;
- Choice in sequence of activities based on individual needs;
- Diagnostic help when errors are made.

The aim of this Fact Sheet is to provide military educators with an outline of suggested procedures for evaluating computer software for the classroom. Additionally, a list of selected resources directs the reader to some of the software directories available, organizations that provide evaluations of courseware, and more detailed guidance on evaluating software. (See NETWORK Fact Sheet No. 1 for a general discussion of implementing computers in the classroom and additional references.) The software evaluation process should consist of the following procedures:

- Establish evaluation criteria;
- Obtain basic descriptive information from potential suppliers;
- Preview software and/or complete evaluation checklist.

Evaluation Criteria

The need to evaluate computerized instructional materials far exceeds that of print materials because computerized instruction involves very little teacher manipulation compared with textbook instruction where the teacher can modify, augment, and reorder lessons (Heck, et al., 1981). The criteria that will be most useful in evaluating educational software will be tailored to your individual situation. Listed below are suggested questions to answer when reviewing software or when reading published reviews. The source for these "Instructional Software Review Questions" is the *Educators Unauthorized Microcomputer Survival Manual* published by the Council for Educational Development Research (Pitts, 1981).

Rationale, Goals, Objectives

1. Is the program's rationale set forth clearly?
2. Does the rationale make sense?
3. Are the program's goals clearly stated?
4. Are the goals consistent with the program's rationale?
5. Are the goals appropriate for the students who will use the program?
6. Are there explicitly stated objectives corresponding to all the goals?
7. Do the objectives clearly communicate the developers' intent to the teacher?
8. Is the program compatible with your instructional objective(s)?
9. Will the program help you achieve your instructional objective(s)?

Content

1. Is the program's content accurate?
2. Is the content complete, and logically organized?
3. Is the range of skills included in the program sufficient to meet the program's objectives?
4. Do the skills match the needs and abilities of students who will use the program?

Instruction

1. Does the program use a sufficient variety of instructional strategies?
2. Are the program's objectives shared with students?
3. Are there ample opportunities to practice skills stated in the objective?
4. Is the sequencing of instruction clear?
5. Are the materials free from sexual, social, or racial bias?
6. Does the program provide students with adequate feedback?
7. Is the form of the feedback and the response to student errors appropriate?
8. Does the program provide an adequate record of student performance?

The Student

1. Does the program's reading level match student ability level?
2. Is the program self-instructional or will it require teacher intervention?
3. Are instructions to students clear and easily understood?
4. Does the program offer students the option of stopping or exiting?
5. Can students control the duration of the display on the screen?
6. Is the typeface used in the program easy to read?
7. Are student interest and active involvement likely to be maintained?

The Teacher

1. How easily can teachers use the program and how easily can they incorporate the program into their instruction?
2. Does the program include materials for the teacher?
3. Are the teacher materials clearly organized?
4. Do the teacher materials explain the program's objectives?
5. Is the information contained in the teacher materials correct?
6. Are the teachers who will use the program familiar with the subject matter content?
7. Are the teachers resonably convinced that their students can perform well in the program and that they will like it?
8. Do the teachers think the program's teacher materials give them sufficient orientation to operate the program in their classrooms?

Assessment

1. Do tests or assessments in the program adequately measure what the program teaches?

2. Is there a good match between the program's goals and assessment procedures?
3. Do the assessment procedures sample a reasonable portion of learning outcomes?
4. Are the most emphasized learning outcomes adequately assessed?
5. Are the items included in the tests carefully and correctly constructed?
6. Are a sufficient variety of procedures used to assess student performance?

Evaluation

1. Did the program go through a development cycle which included field testing?
2. Is a program evaluation report or report of field testing available?
3. Does the program provide evidence that:
   - Students learn by engaging in the program's activities?
   - Students learn what the program developers intend for them to learn?
   - Students enjoy working with the program?
4. Who are the program's developers?
5. Do they have sufficient knowledge of instructional methods, the academic disciplines relevant to the program's content, and the characteristics of the learners who will use the program?

Cost

1. What is the program's purchase price?
2. What is the cost of consumable supplies/materials needed for the program?
3. What is the annual per pupil cost of the program?
4. What is the cost of any training necessary to prepare teachers to use the program?

Basic Descriptive Information

Before effort is invested in reviewing software, basic descriptive information such as price and compatibility with available hardware should be obtained. It would be useful to develop a form letter to request this factual information, which software suppliers should be able to provide either directly or through promotional literature (Heck, 1981).

Previewing Software

When possible, hands-on experience with the software provides the most dependable evaluation. The National Council of Teachers of Mathematics (NCTM) suggests that the reviewer run each program as a successful student would and also run through the program making various types of errors. The NCTM has developed a Software Evaluation Checklist that, when tailored to your specific needs, can be used both when the software is available for review and also when you must rely solely on published reviews (Heck, 1981).

Responsible Courseware Selection

EPIE Institute and Consumers Union are concerned that educational funds are being wasted on inadequate software. They have recommended a seven step process "to help educators make responsible decisions" when establishing computerized instruction (EPIE Institute, April 1983):

1. *Needs Analysis*. Do not begin by looking at courseware. Think first about where you want to integrate courseware into your curriculum and why.
2. *Specification of Courseware*. Write a clear, full "spec" of the courseware you are looking for.
3. *Identification of Courseware*. Make a search of available courseware directories....(See References.)
4. *Evaluation of Courseware*. Use ... published evaluations to get further information about the courseware you have identified as a result of your search of directories. (See References.)
5. *Preview (By teachers and with students)*. Previewing any courseware you are considering buying is an absolute necessity ....
6. *Recommendations on Purchase and Potential Use*. Following the preview, write a statement explaining why a piece of courseware is recommended or not recommended for purchase. In the event of a positive statement, include suggestions for optimal use that may have become apparent during the preview period. Attach this statement to the documentation of purchased courseware.
7. *Post-Use Feedback from Teachers and Students*. Let the comments of teachers and students who have used a piece of courseware guide its improved implementation as well as inform future purchases.

Educators who have responsibility for implementing computerized instruction have many resources to turn to for guidance. The following references are only a sample from an abundance of information that is available.

NETWORK Fact Sheet is published by the Military Educators Resource NETWORK. The NETWORK is part of the Basic Skills Resource Center (BSRC) and is funded by the Department of the Army through the U.S. Army Research Institute and the Adjutant General's Office.

The NETWORK is operated by InterAmerica Research Associates, Inc. pursuant to Contract No. MDA 903-82-C-0169. The views expressed in this publication do not necessarily reflect the views of the sponsoring agencies. This work is not copyrighted. Readers are free to duplicate and use all or any portion of it. In accordance with accepted publication standards, InterAmerica requests that proper credit be given. For additional information on the NETWORK's resources and services contact: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, Virginia 22209 (703) 522-0667.

Rocco P. Russo, BSRC Director

Juan J. Gutierrez, President, InterAmerica Research Associates, Inc.

References

Applications of Microcomputers for Instruction and Educational Management—Special Issue of *AEDS Journal*. Vol. 17, Nos. 1 and 2, Fall and Winter 1983.

Association for Educational Data Systems Proceedings. Washington, D.C.: AEDS, 1982.

Braun, L. "Quality Software: How to Know When You've Found It." *Electronic Learning*, Vol. 1, No. 2, November/December 1981, pp. 33-36.

Chartrand, Marilyn J. and Constance D. Williams. *Educational Software Directory: A Subject Guide to Microcomputer Software*. Littleton, Colorado: Libraries Unlimited, Inc., 1982.

Educational Software Selector. Watermill, New York: EPIE Institute, 1984.

EPIE Institute. "Seven Steps to Responsible Courseware Acquisition and Use." *The Computing Teacher*, Vol. 10, No. 8, April 1983, pp. 35-36.

Euchner, Charlie. "Kenneth Komoski Helps Wary Consumers by Evaluating Computer Products for Schools." *Education Week (Reprint)*, Vol. II, No. 9, February 2, 1983.

Gawronski, J.D. and Chalene E. West. "Computer Literacy." ASCD *Curriculum Update*, October 1982.

Heck, William P., Jerry Johnson and Robert J. Kansky. *Guidelines for Evaluating Computerized Instructional Materials*. Reston, Virginia: National Council of Teachers of Mathematics, 1981.

Peters, G. David and John M. Eddins. *A Planning Guide to Successful Computer Instruction*. Champaign, Illinois: Electronic Courseware Systems, Inc., 1981.

Paul, Daniel M. *Handbook for the Identification and Assessment of Computer Courseware for the Adult Learner*. Shanandoah, Pennsylvania: Shanandoah Valley School District, 1982.

Pitts, Marcella R. *The Educator's Unauthorized Microcomputer Survival Manual*. Washington, D.C.: Council for Economic Development and Research, 1981.

Sandler, David and Roger Kenner. "Whither CAI? The Need for Communicative Courseware." *System*, Vol. 11, No. 1, 1983, pp. 33-39.

Walker, Decker F. "Reflections on the Educational Potential and Limitations of Microcomputers." *Phi Delta Kappan*, Vol. 65, No. 2, October 1983, pp. 103-107.

Examples of Organizations Exchanging or Evaluating Software

Association for the Development of Computer-Based Instructional Systems, Western Washington State College, Bellingham, Washington 98225

Educational Products Information Exchange Institute, Consumers Union, P.O. Box 620, Stony Brook, New York 11790

Microcomputer Resource Center, Teachers College, Columbia University, 525 W. 121st St., New York, New York 10027

MicroSIFT, Northwest Regional Educational Laboratory, 300 SW 6th Ave., Portland, Oregon 97204

Minnesota Educational Computing Consortium, 2520 Broadway Dr., St. Paul, Minnesota 55113

APPENDIX H

Copies of the NETWORK Vanguard*

* Tables of Contents reproduced with the publisher's permission.

The NETWORK Vanguard
Selected Current Journal Contents

No. 1 August 1983

The NETWORK Vanguard contains the tables of contents from journals selected for their relevance to adult basic skills education programs and research. The Military Educators Resource NETWORK provides this service four times a year to help Army educational personnel keep informed of current developments in their field.

The tables of contents appear in alphabetical order according to journal name. A list of journals included, along with ordering information can be found on page 2. In addition to the address, frequency of publication and subscription price are provided. In some cases, a single copy (S.C.) price is given. "UMI" indicates that copies of articles can be obtained from University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106. Reprints of articles sometimes are available from the author or the journal itself. If your installation library does not carry a particular journal, your librarian may be able to obtain a copy through the interlibrary loan system.

We welcome suggestions on specific journals or types of journals to include in future issues. If you have a suggestion or an information request, call or write: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667 or use AUTOVON 851-3550 and ask for "off-net government official call to 522-0667."

The Military Educators Resource NETWORK is an information center that has been established to enhance the Army's educational programs by linking military educators throughout the world. The NETWORK's services and products help these educators keep informed of current research and significant developments in education. A computerized database contains the latest information in adult basic skills education programs and research, descriptions of various programs operated at Army installations, and directory information to be used for referrals. Among the free services and products offered are an inquiry response service, a points of contact referral service, periodic fact sheets, and a quarterly newsletter.

List of Journals

Adult Education Quarterly

Circulation and Advertising Manager
American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 301
Washington, DC 20036

4/yr. $21.00 nonmember; S.C. $5.00

AEDS Journal

Association for Educational Data Systems
1201 Sixteenth Street, N.W.
Washington, DC 20036

4/yr. $25.00 nonmember; UMI.

American Educational Research Journal

AERA
Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution. S.C. $5.50 + postage and handling.

Compute! The Journal for Progressive Computing

Circulation Department
COMPUTER! Magazine
P.O. Box 5406
Greensboro, NC 27403

12/yr. $20.00

The Computing Teacher

International Council for Computers in Education
135 Education
University of Oregon
Eugene, OR 97403

9/yr. $16.50

Educational Evaluation and Policy Analysis

American Educational Research Association
Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution. S.C. $5.50 + postage and handling.

Educational Technology

Educational Technology Publications, Inc.
140 Sylvan Avenue
Englewood Cliffs, NJ 07632

12/yr. $49.00; S.C. $6.00. UMI

Electronic Learning

902 Sylvan Avenue
Englewood Cliffs, NJ 07632

8/yr. $19.00; S.C. $3.50

Human Learning: Journal of Practical Research and Applications

Subscription Department
John Wiley & Sons, Limited
Baffins Lane
Chichester, Sussex, UK

4/yr. $79.50

Instructor

The Instructor Publications, Inc.
757 Third Avenue
NY, NY 10017

9/yr. $18.00; MF.

Journal of Computer-Based Instruction

Gordon Hayes, Executive Secretary
ADCIS International Headquarters
409 Miller Hall
Western Washington University
Bellingham, WA 98225

4/yr. $18.00 nonmember individual; $36.00 institution (includes annual meeting proceedings). S.C. $6.50.
UMI

Journal of Educational Research

Heldref Publications
400 Albemarle Street, N.W.
Washington, DC 20016

6/yr. $28.00; S.C. $5.00

Journal of Reading

International Reading Association
P.O. Box 8139
Newark, DE 19711

8/yr. $25.00. S.C. $3.25. UMI

Lifelong Learning: The Adult Years

American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 301
Washington, DC 20036

10/yr. $25.00. S.C. $2.75. UMI.

Online

Online, Inc.
11 Tannery Lane
Weston, CT 06880

6/yr. $78.00

Reading Improvement

PROJECT INNOVATION
Box 566
Chula Vista, CA 92010

4/yr. $8.00 individual; $11.00 institution.

TESOL Quarterly: A Journal for Teachers of English to Speakers of Other Languages

James E. Alatis
School of Language and Linguistics
Georgetown University
Washington, DC 20057

4/yr. $30.00 membership includes journal subscription

T.H.E. Journal (Technological Horizons in Education)

Synergy, Inc.
7 Spruce Street
P.O. Box 992
Acton, MA 01720

8/yr. Free on limited basis
Other subscriptions $15.00
S.C. $2.50

Training and Development Journal

Subscription Department
American Society for Training and Development
Suite 305
600 Maryland Avenue, S.W.
Washington, DC 20024

12/yr. $40.00 nonmember

ADULT EDUCATION QUARTERLY

CONTENTS

VOLUME 33, Number 4, Summer, 1983
ISSN 0001-8481

ARTICLES

Determining the Importance of Community-Wide Adult Education Needs
Richard W. Kemerer and Wayne L. Schroeder 201

METHODS OF PROVIDING ADULT EDUCATION: TWO REVIEWS OF THE LITERATURE

Some Observations on Telecourse Research and Practice
Peter Wiesner 215

The Lecture: An Update on Research
Lorys Oddi 222

Perspectives of Business and Industry on Cooperative Programming with Educational Institutions
Gordon G. Darkenwald 230

FORUM

Questions of Values and Conduct: Ethical Issues for Adult Education
Thomas A. Singarella and Thomas J. Sork 244

BOOK REVIEWS

Law: Willis, Paul. *Learning to Labor*. Connell, R. W., Ashendon, D. J., Kessler, S., Dowsett, G. W. *Making the Difference* 252

Robbins: Gueulette, D. G. (Ed.) *Microcomputers for Adult Learning: Potentials and Perils* 255

Cunningham: Thompson, J. L. (Ed.) *Adult Education for a Change*. . 259

ADULT EDUCATION REPORTS 260

Adult Education Quarterly is published quarterly at Washington, D.C., by the American Association for Adult and Continuing Education. Second class postage is paid at Washington, D.C. and additional mailing offices.

Adult Education Quarterly and *Lifelong Learning: The Adult Years* are published by the American Association for Adult and Continuing Education. The annual fee for professional membership is $55.00, which includes subscriptions to both journals. Subscription price to non-members: Domestic, $21.00 annually; Canada, $26.00; Foreign, $26.00; Individual copies, $5.00. All correspondence concerning membership, change of address, circulation or advertising should be addressed to Circulation and Advertising Manager, AAACE, 1201 Sixteenth Street N.W., Suite 230, Washington, D.C. 20036

acds JOURNAL

ASSOCIATION FOR EDUCATIONAL DATA SYSTEMS

VOLUME 16 ■ Spring 1983 ■ NUMBER 3

The Effect of Cognitive Type and Communications Style on the Communication of Management Information System Concepts
Donald L. Davis 137

Explaining the Efficiency of Computer Assisted Instruction
George W. Bright 144

Computer Literacy in the Elementary School: An Argument for Change from Within
Alice-Ann Winner 153

The Design, Development and Evaluation of A Low-Cost Computer-Managed Spelling System
Rex Thomas and Brian Gustafson 168

A System for Generating Instructional Computer Graphics
Randall E. Nygard and Babuvenkat Ranganathan 177

Systems Development: The Processing Stages
Anne C. Sitaker and Kathy Brittain White 188

A Distributed Processing Approach to Payroll Time Reporting for a Large School District
Raoul J. Freeman 196

Book Review
M.D. Roblyer 202

Contents of this journal are available in Microform from Xerox University Microfilms, 300 N. Zeeb Road, Ann Arbor, MI 48106

American Educational Research Journal

Volume 20, Number 2 Summer 1983

165 Sex Differences in Quantitative SAT Performance: New Evidence on the Differential Coursework Hypothesis
AARON M. PALLAS AND KARL L. ALEXANDER

183 Teachers' Verbal and Nonverbal Communication Patterns as a Function of Teacher Race, Student Gender, and Student Race
ADELAIDE W. SIMPSON AND MARILYN T. ERICKSON

199 Dropping Out of High School: The Influence of Race, Sex, and Family Background
RUSSELL W. RUMBERGER

221 Measuring Implementation and Multiple Outcomes in a Child Parent Center Compensatory Education Program
KENDON J. CONRAD AND MAURICE J. EASH

237 Fruits and Fallacies of Instructional Systems: Effects of an Instructional Systems Approach on the Concept Attainment of Anglo and Hispanic Students
MICHAEL J. HANNAFIN

251 School Determinants of Student Achievement in Secondary Education
ISRAEL BINIAMINOV AND NAFTALY S. GLASMAN

269 Interaction of Internal Attribution for Effort and Teacher Response Mode in Reading Instruction: A Replication Note
ERNEST T. PASCARELLA, SUSANNA W. PFLAUM, TANIS H. BRYAN, AND RUTH A. PEARL

277 A Concrete Strategy for Remembering Abstract Prose
JOEL R. LEVIN, LINDA K. SHRIBERG, AND JILL K. BERRY

291 Student Achievement at Predominantly White and Predominantly Black Universities
Q. WHITFIELD AYRES

June 1983 Vol. 5, No. 6

FEATURES

36 How To Buy The Right Printer — Charles R. Jackson
44 The New Low Cost Printers — Jonny Yokal
61 Using A Printer With The TI 99/4A — C. Regena
62 Commodore To ASCII For Printers — Thomas Henry
70 Connecting A Printer To The TRS-80 Color Computer — Otis Cowper

EDUCATION AND RECREATION

72 Astrostorm — Peter Lear
86 The Hawtmen Of Dindrin — Esteban V. Aguilar Jr.
102 Bee Trap — Robert L. Lyons
112 Memory Trainer — Harvey B. Herman
122 MusicMaster For The Commodore 64 — Chris Metcalf and Marc Sugiyama

REVIEWS

134 Commodore 64 Programmer's Reference Guide — Anu M. Gupta
136 The Printographer Graphics Printer Package For The Apple — Richard Cornelius
137 Marathon For Atari — Mike Kinnaman
138 Disk Data Manager For VIC And 64 — Carl Hunter
140 Ghost Encounters For Atari — Tina Holcomb

COLUMNS AND DEPARTMENTS

6 The Editor's Notes — Robert Lock
98 Readers' Feedback — The Editors and Readers of COMPUTE!
18 Computers and Society: Androids And Robots — David D. Thornburg
24 The Beginner's Page — Richard Mansfield
26 Questions Beginners Ask — Tom R. Halfhill
30 On The Road With Fred D'Ignazio: Twilight Of The Computer Hacker — Fred D'Ignazio
150 Friends Of The Turtle: HES Turtle Graphics II — David D. Thornburg
152 The World Inside The Computer: Turning Logo Upside Down — Fred D'Ignazio
160 Learning With Computers — Glenn M. Kleiman
164 Micros With The Handicapped: Developing A Communications Program — Susan Semancik and C. Marshall Curtis
182 Programming The TI: Translating Programs Into TI BASIC — C. Regena
214 Insight: Atari — Bill Wilkinson
250 Machine Language: Numeric Output, Part II — Jim Butterfield

THE JOURNAL

167 Data Searcher — Jerry Sturdivant
168 Apple Shape Generator — J. F. Johnson
175 Atari Player/Missile Graphics Simplified — Stefan Sandberg
180 Slow List On The VIC 20 — Ken Boyd
188 VIC, 64 And PET Superman Questions And Answers — Jim Butterfield
188 An Interesting Fragment Of Code — Chris Crawford
194 Commodore 64 Video — A Guided Tour, Part V — Jim Butterfield
200 Easy VIC Machine Language Saves — Paul Christensen
204 TI Structured BASIC — Steven M. Ruhl
206 Atari Formats — Sheldon Leeman
210 Joysticks For The Commodore 64 — Michael A. Tybonski
213 UnNEW For The VIC And 64 — Jim Wilcox
216 Machine Language Saver — John O. Bolte
219 Automatic Atari DATA Statements — Richard Dortner
223 Atari Fast Shuffle — James E. Korenthal
224 VIC Contractor — Peter Lear
226 Custom Characters On Atari — Charles Delp
234 Sinclair/Timex Screen Splitter — Harold Miller
235 VIC Power Spirals — Bruce Jordan
238 Using The Atari Timer — Stephen Levy
242 Visiting The VIC: 20 Video, Part II — Jim Butterfield
246 PET Relative File Field Separator — T. A. Zucal
254 Atari Reset Run — Thomas A. Marshall
256 Soft 16 For Commodore 64 — Douglas D. Hicoll
260 Minefield — Sean Igo
272 Relocation Calculator — Linton Chastain

144 A Beginner's Guide To Typing In Programs
148 How To Type COMPUTE!'s Programs
274 COMPUTE! Modifications Or Corrections To Previous Articles
279 News & Products
294 Calendar
298 Product Mart
304 Advertisers Index

NOTE: See page 148 before typing in programs.

GUIDE TO ARTICLES AND PROGRAMS

Title — Machine
Apple Shape Generator — AP
Atari Player/Missile Graphics Simplified — AT
Slow List On The VIC 20 — V
VIC, 64 And PET Superman Questions And Answers — V/64/P
An Interesting Fragment Of Code — 64
Commodore 64 Video — A Guided Tour, Part V — 64
Easy VIC Machine Language Saves — V
TI Structured BASIC — TI
Atari Formats — AT
Joysticks For The Commodore 64 — 64
UnNEW For The VIC And 64 — V64
Machine Language Saver — V64
Automatic Atari DATA Statements — AT
Atari Fast Shuffle — AT
VIC Contractor — V
Custom Characters On Atari — AT
Sinclair/Timex Screen Splitter — S
VIC Power Spirals — V
Using The Atari Timer — AT
Visiting The VIC: 20 Video, Part II — V
PET Relative File Field Separator — P
Atari Reset Run — AT
Soft 16 For Commodore 64 — 64
Minefield — V64/AP/PET/C64
Relocation Calculator — C

AP Apple, AT Atari, P PET, CBM V VIC-20, C CBM, C Radio Shack Color Computer, 64 Commodore 64, AT Sinclair ZX-81, TI Texas Instruments, "All or several of the above.

COMPUTE! The Journal for Progressive Computing (USPS 537250) is published 12 times each year by Small System Services, Inc., P.O. Box 5406, Greensboro, NC 27403 USA. Phone (919)275-9809. Editorial Offices are located at 505 Edwardia Drive, Greensboro, NC 27409. Domestic Subscriptions: 12 issues, $30.00. Send subscription orders or change of address (P.O. form 3579) to Circulation Dept., COMPUTE! Magazine, P.O. Box 5406, Greensboro, NC 27403. Second class postage paid at Greensboro, NC 27403 and additional mailing offices. Entire contents copyright © 1983 by Small System Services, Inc. All rights reserved. ISSN 0196-3572

Vol. 10 No. 9 | THE COMPUTING TEACHER | May 1983

Features

10 **Computers on Vacation**
Dianne Lawrence

11 **Should Young Children Work with Microcomputers—Logo Before Lego™**
B.J. Barnes and Shirley Hill

32 **Results from the First and Perhaps Last Annual TCT Official Contest**

33 **MICROgrams**
EPIE & Consumers Union

43 **INSTANT HEX—A Program for Teaching Hexadecimal Notation**
Richard Cornelius

46 **Library Word Processing Center Enriches Publications Class**
Marilyn Nicholson

47 **The Librarian and Special Education—Computers Bring Us Together**
Marilyn Nicholson

49 **A Nod to the Novice #2**
Bob Shapurs

52 **Comes the Dawn—Part IV**
Merle Marsh

56 **The Logo Center**
Tim Riordon and Kathleen Martin

60 **A Sample of Teaching with a Microcomputer—A Single Classroom**
Richard Boyd

62 **SOFTSWAP Update**
Ann Lathrop

64 **From England and Australia**
Robert Shostak

66 **Robots in the Kindergarten**
Joan Keller and Dolores Shanahan

71 **Computers at Canterbury School**
Paul A. Cauchon

Departments

3 Editor's Message
6 Letters to the Editor
8 What's New
15 Software Reviews
48 Computers in the Media Center
49 A Nod to the Novice #2
56 The Logo Center
64 Computers in the Teaching of English: Bits 'n Pieces
68 Book Reviews
77 Classified Ads
80 ICCE Organization Members

Educational Evaluation and Policy Analysis

Volume 5, Number 2 Summer 1983

The Role of the State in the Governance of Higher Education
Lyman A. Glenny and Frank A. Schmidtlein 133

Some Cautions in Synthesizing Research Studies
Penny Hauser-Cram 155

Follow-up Models In Teacher Education
Gary deVoss and Donald Hawk 163

The Effects of State-Local Fiscal Constraints on Education Financing
Kenneth E. Quindry and William F. Fox 173

A Federal Evaluation Agenda for the 1980s: Some Speculations and Suggestions
Howard E. Freeman 185

Authority and Governance in Curriculum Development: A Policy Analysis in the United States Context
Edmund C. Short 195

United States School Finance Policy, 1955-1980
James W. Guthrie 207

Youth Unemployment and Its Educational Consequences
Henry M. Levin 231

Evaluation and Incrementalism: The AIR Report and ESEA Title VII
Iris Polk Berke 249

educational technology.

Volume XXIII
Number 7

July, 1983

About This Issue

A general issue examining aspects of educational technology

CONTENTS

4 Technology News

6 TECHnically Speaking
The Gulf Between Researchers and Practitioners;
Will Computers Ever Replace Teachers?
Education as a Political Issue

7 An Essay for Budding Computerists
The Loose Connection, or
How We Wrote the Gettysburg Address
Phyllis J. Perry and John R. Hobach

10 Teaching Social Sciences with Television
David L. Stoloff

13 A Critical Incident Technique
for Developing Criterion-Referenced Tests
Ayres G. D'Costa and Joan E. Watson

17 The Role of Educational Technology
in Teacher Education in Developing Countries
C.A. Ogunniladе

20 Training PSI Proctors to Do Formative Analysis
R.V. Rasmussen

23 "Reaching Out" with Cable Television
to New Student Populations
Barbara Gellman-Bustin and James A. DeChenne

25 Educational Technology Columnists
Albert L. Goldberg Murphy Type Laws (II)
John F. Huntington CAI, Videodiscs, Languages
Omar K. Moore "... but let's talk tonight!"

28 The Structure of Evaluation
A Comprehensive Conceptual Model
F.K. Abu-Sayf

33 An Internal Consistency Model
for Evaluating Academic Programs
Jo Craig Anderson

35 Distributed Processing and Student Data
Raouf J. Fraiman

39 Educational Technology Professional Literature Reviews

43 Educational Technology Product Reviews

47 *Learning Can Be Fun*

ELECTRONIC LEARNING

April 1983
Volume 2, Number 7

Published by Scholastic Inc.

National Logo Exchange Editor Tom Lough discusses how teachers can use Logo in the classroom to reinforce traditional classroom goals.

Features

51 RAISING SAT SCORES
How One School Does It
By Stan Silverman and Sandra Dunn
SAT scores are improving at Hempstead (NY) High School — thanks, in part, to the use of the computer and how SAT preparation programs. Here's how it all came about, along with a review of those four programs and a listing of other SAT preparation packages now on the market.

56 RETOOLING YOUR BUSINESS EDUCATION CURRICULUM
How to Prepare Your Students for an Electronic Future
By Russell W. Guthrie and Deborah H. Guthrie
The microcomputer is changing the business world. Here are some concrete ideas for how you can modify your business education courses to suit.

62 EL's VCR HANDBOOK
A Buyer's Guide to Videocassette Recorders
By Frank Lewis
EL answers the most common questions about VCRs, and provides some tips and suggestions on how to choose the best system for your needs.

70 EXPLORING NEW HORIZONS WITH LOGO
How One School Is Charting the Course
By Tom Lough
Focusing on EL's April School of the Month — the Punahou School in Honolulu, Hawaii —

Columns

24 OPINION
Why Johnny Can't "Compute"
By Gay Reels

30 THE ADMINISTRATOR'S NOTEBOOK
Hard Disks for Microcomputers: How to Tell If You Need One
By Patrick Kennedy

42 STATES TO WATCH
Tennessee: A Four-Point Computer Literacy Requirement Plan
By Lorraine Hopping

Departments

6 From the Editor
10 Letters
16 EL News
76 Software Reviews
84 Book Reviews
86 New Products
90 New Software
92 Resource Center
95 EL Network
96 EL Previews

HUMAN LEARNING
(*Human Learn.*)

JHLEDG 2 (1) 1-81 (1983)
ISSN 0277 6707

CONTENTS

VOLUME 2, ISSUE No. 1 *January-March 1983*

Interpreting Adjunct Question Research: Processes and Ecological Validity: P. C. Duchastel 1

Analyzing Command Language Paradigms in Software for Computer Assisted Learning: J. D. M. Underwood 7

Self Reports of Memory Abilities by Old and Young Adults: R. Chaffin and D. J. Herrmann 17

Assessing Tertiary Study Processes: D. Watkins 29

The Processes and Effects of Peer Tutoring: L. F. Annis 39

A Comparison of Phonetic and Semantic Encoding Mnemonics: F. S. Bellezza, J. C. Day and K. R. Reddy 49

Learning Style and School Attainment: D. H. Stott, L. F. Green and J. M. Francis 61

BOOK REVIEWS 77

May 1983

Number 9
Volume XCII

Instructor

18 INSTRUCTOR Computer Winners Report
Time Magazine named the computer its 1983 Machine of the Year, and INSTRUCTOR computer winners know why. Looking back at their first year with their prizes, they describe what happened to the kids, community, and curriculum when the micro came to school.

30 Hug a Tree!
You don't have to hug a tree to get close to nature, but it couldn't hurt. You also might try taking kids on a nocturnal nature walk, organizing a creepy crawler derby, or color-coding spring sights for other fresh and natural ways of teaching primary science to youngsters.

38 From Cover to Classroom
We've got you covered in art and reading, with this unit on how to use INSTRUCTOR covers and other artwork in the classroom. Read how a Picasso print or a Wyeth watercolor can help you teach a lesson on word recognition, comprehension, vocabulary building, even reading readiness.

42 Those Who Teach Also Can ... Sell, Organize, Compute ...
When teaching jobs get scarce, what's a teacher to do? Is the adage "once a teacher, always a teacher" true? Author Anne Miller presents a guide to alternative careers that shows teachers how to build on, not abandon, their teaching backgrounds.

58 Captain Quest's Summer Book of Fun
Make a date and a datebook with the Captain and his robot this summer. Simply photocopy copies of the activity sheets (one for primary children and one for older kids) and have your students paste up their summer agendas on their own ready-to-go Captain Quest calendars. Happy summer learning to all!

6 Inside INSTRUCTOR
8 INSTRUCTOR Newsfront
12 Letters
14 Speak Out! *Standardized tests preserve a racial clue*
16 Diary of a Mad Teacher *When smiley faces no longer cut it . . .*
18 INSTRUCTOR Computer Winners Report *What happened when the computers moved in*
20 Teachers Are Talking About
26 Are American Schools Turning Out Technopeasants? *When the microchips are down, will our kids understand how their technology works? Richard Hersh discusses technological literacy and what it means for the elementary curriculum.*
30 Hug a Tree! *And six other activities that teach young children to embrace nature*
36 Minutes in May *Not a moment too soon, projects for the final days of school*
38 From Cover to Classroom *INSTRUCTOR covers can help you blend fine art with language arts*
42 Those Who Teach Also Can . . . Sell, Organize, Compute, Write, Market, Design, Manage. . . . *How to market your teaching skills should you lose your teaching job*
48 Natural Wonder Notebook *The Grand Canyon and other holes in the ground*
54 Art and Crafts *The great tissue paper makeover, class memory hang-ups, and awfully easy ideas*
58 Captain Quest's Summer Book of Fun *Three calendars to keep kids questing for knowledge all summer long*
65 May Calendar
66 Would You Believe Poster *The Classroom Katydid*
74 Poetry Place *Some call them limericks, but when they're about pigs, Arnold Lobel says they're pigericks*
76 Whole K Catalog *Ideas for preschool, kindergarten, and beyond*
80 Teachers Express *When you need a good idea overnight, reach for one of these quick tips*
86 Bulletin Boards
88 Computer Corner *Computer shows and courseware for the very young*
92 Keeping Up *Thirty-nine ways for kids to while away the summer days*
96 Books *Science, language arts, and music*
102 Index to Advertisers

JOURNAL of READING
VOLUME 26 N°8 MAY 1983

CONTENTS

677 Commentary
Walter H MacGinitie
The power of uncertainty

684 Determining instructional reading level: Standardized multiple choice versus IRI proved recall questions
Jay S. Blanchard, Paul Barthwick, Jr., Ann Hall
This study compared results of standardized reading tests with informal reading inventories to determine whether teachers should favor one score over the other as an indicator of instructional reading level

689 Effects of a content area reading course on teacher attitudes and practices: A four year study
Ezra L. Stieglitz
A survey of various groups of teachers reveals a generally positive attitude toward content area reading courses. This positive attitude translates into classroom practice when teachers have taken such a reading course

697 Computer assisted instruction in reading
Merle Marsh
Describes early CAI reading projects, reports on subsequent research, and suggests direction for future curriculum development.

702 Gunnar Tingbjörn: A vignette
Eva Engberg
A Swedish linguist talks about his work and the role of reading and writing in helping immigrants achieve full bilingualism.

707 Must we use phonology to read? What Chinese can tell us
Allan M. Siwedal
This study with adult readers in Hong Kong indicated that the highly educated Chinese/English readers used phonological encoding but the less educated Chinese-only readers did not. Why?

714 Improving reading through prior knowledge and writing
Joseph Senecore
Techniques to stimulate students to use background knowledge in reading content area texts, plus a scheme to teach students common text structures by having them write to the model

721 Summer 83 conferences, institutes, workshops

722 Nominations for IRA Awards 1983-84

728 Open to suggestion
Phrase reading for second language students; The Sorabble map and creative mapping; Teaching browsing; Writer's block—another cause and cure

730 Letters

734 ERIC/RCS
Dallas H. Cheek
Secondary reading materials: Selection criteria for the classroom teacher

738 Reviews
Books for adolescents; New from IRA, Writing to Create Ourselves: New Approaches for Teachers, Students and Writers; Writing through Reading; Writing: Process, Development, and Communication, Literacy as a Human Problem, The Vocabulary Builder: The Practically Painless Way to a Larger Vocabulary; Study the Cover Card Way

750 Research
John T. Guthrie
Meanings of "reading"

752 Index to Volume 26, 1982-1983

Front cover photo by David Resende, courtesy of University of Delaware Office of Information Services

International Reading Association
800 Barksdale Road
P.O. Box 8139
Newark, Delaware 19714, USA

Journal of Computer-Based Instruction

Volume 9, Number 4 Spring 1983

TABLE OF CONTENTS

Response Sets: Implications of Research on Psychological Testing for Interactive Computer-Based Instruction 124
Fred Damarin and Suzanne K. Damarin

CAI in Pharmacology: Student Academic Performance and Instructional Interactions 131
Louis Anthony Pugliese

Classroom Delinquency, Achievement, and Computer Assisted Instruction 145
Robert N. Jamison and Keith F. Lewis

The Cost of PLATO in a University Environment 148
Fred T. Hofstetter

Changes in the Cognitive Components of Achievement as Students Proceed Through Computer-Managed Instruction 156
Pat Anthony Federico

Professional Report: CBI Research and Development Centers — US Army Research Institute for the Behavioral and Social Sciences (ARI) 169
Harold F. O'Neil, Jr. and Robert A. Evans

Professional Report: CBI Research and Development Centers — Center for Music Research, Florida State University 171
Jack A. Taylor

Book Reviews 173
Greg Kearsley, Robert J. D. Jones, and James Lee Johnson

ERIC Research Abstracts 175

Index to Volume 9 178

The *Journal of Computer-Based Instruction* (ISSN 0093-8971) is published in February, May, August, and November by the Association for the Development of Computer-Based Instructional Systems (ADCIS). The *Journal* is sent free of charge to ADCIS members. For non-members, the annual subscription rate for individuals is $18.00 (for foreign destinations add $4.00 for surface mail or $12.00 for airmail). Institutional subscriptions include a bound copy of the annual volume. Prepayment rates are $30.00 U.S., other addresses are $40.00 for surface mail delivery, $60.00 for air delivery. Single copies and back issues are available for $5.00 each, for foreign destinations add $1.00/copy for surface mail or $3.00/copy for airmail. Copies of the *Proceedings* issue are $20.00 for U.S. addresses, $25.00 for other addresses.

Address correspondence about rates or current subscriptions, advertising, changes of address, and/or orders for back issues to Gordon Hoops, Executive Secretary, ADCIS, International Headquarters, 409 Miller Hall, Western Washington University, Bellingham, Washington 98225. Requests for permission to reprint, correspondence concerning manuscript preparation, and manuscripts submitted for publication consideration should be sent to Allen Austin, Editor, *Journal of Computer-Based Instruction*, 253 EPA, 100 South Matthews Avenue, University of Illinois, Urbana, Illinois 61801.

JCBI abstracts appear in *Psychological Abstracts* and *Computer & Control Abstracts*. The Institute of Scientific Information, USSR Academy of Sciences, Moscow, also publishes abstracts of *JCBI* articles in *Abstracts Journal*. *JCBI* is regularly indexed in *International Bibliography of Periodical Literature (IBZ)*. Microform copies of *JCBI* are available from University Microfilms International, Dept. PA, 300 North Zeeb Rd., Ann Arbor, MI 48106, U.S.A. or 18 Bedford Row, London, WC1R 4EJ, England.

Non-profit organization postage paid at Ft. Dodge, Iowa 50501.

Published Quarterly
for the Association for the Development of Computer-Based Instructional Systems
International Headquarters
409 Miller Hall
Western Washington University
Bellingham, Washington 98225

JeR

63rd Year of Publication
Dedicated to the Study of Education

VOLUME 76 MAY/JUNE 1983 NUMBER 5

ARTICLES

A Cognitive Approach to Factors Influencing Reading Comprehension—
S. Jay Samuels 261

Mathematics Achievement and Attitude Productivity in Junior High School—
Show-Ling Tsai, Herbert J. Walberg 267

Wait-Time as a Variable in Sex-Related Differences During Fourth-Grade Mathematics Instruction—*Delores A. Gore; Daniel V. Roumagoux* 273

Retention and Transfer from a Morphemically Based Direct Instruction Spelling Program in Junior High—*Karl D. Hunt; James W. Robinson; Richard Rankin* 276

Where Do Children Study?—*James E. Pearce; Thomas A. Simard; Donald R. Routh* 280

A Comparison of an Inquiry and a Direct Instruction Approach to Teaching Legal Concepts to Secondary School Students—*Glen D. Fielding; Edward Kameenui; Russell Gersten* 287

The Relation of Children's Television Viewing to School Achievement and I.Q.—*Robyn Ridley-Johnson; Harris Cooper; June Chance* 294

The Effect of Microcomputer-Assisted Instruction on the Computer Literacy of Fifth Grade Students—*Kathleen J. Swain; Michael T. Bertolo; Gerald H. Krockover* 298

A Follow-Up Study of Disadvantaged Children Two Years after Being Tutored—*Theodore Eisenberg; Barbara Franke; Miriam Cornell* 302

Evaluation Systems and Attributional Tendencies in the Classroom: A Sociological Approach—*Dina L. Oren* 307

DEPARTMENTS

It Says in The *JER* 260
Directions for Contributors 301
Among Those Present 313

Publisher: Cornelius W. Vahle, Jr.
Managing Editor: Ed Taylor
Ed. Coordinator: Louise M. Dudley
Business Manager: Barbara Mersey
Advertising Manager: Mary Fahey Farley
Subscription Manager: Cathy Prather
Production Supervisor: Joanne Reynolds
Compositors: Doris Alexander, Hyacinth Billings
Graphics: Kyung-Sook Hillmann, Laura Steele

The *Journal of Educational Research* (ISSN 0022-0671) is published bimonthly by Heldref Publications, 4000 Albemarle St., N.W., Washington, D.C. 20016. Annual subscription rate is $30 plus $6 postage for all subscriptions outside the United States. Foreign subscriptions must be paid in U.S. dollars. Single copies $5.00. Allow six weeks for shipment of first copy. Claims for missing issues made within six months will be serviced free of charge. Second class postage paid at Washington, D.C., and additional post offices. Copyright © 1983 by the Helen Dwight Reid Educational Foundation, Evans M. Kirkpatrick, president, 4000 Albemarle St., N.W., Washington, D.C. 20016. Postmaster: Send address changes to the *Journal of Educational Research* at the above address.

Lifelong Learning: The Adult Years

American Association for Adult and Continuing Education

May 1983 (ISSN 0148 2165) Volume 6 Number 9

CONTENTS

Augusta Clark, Addie Hall	4	The Self Concepts and Occupational Aspiration Levels of ABE Students
Alice LeRoy Cochrane	7	A Right Attitude: The Older Student's Asset
Jacquelyn Cole, Maurice Cole	10	A Model for Interagency Cooperation
Gene Whaples	12	Presidents' Forum
John Rachal	14	The Andragogy-Pedagogy Debate: Another Voice in the Fray
Stephen Brookfield, Jandra Kalich	16	Book Reviews
Peter Jarvis	20	The Lifelong Religious Development of the Individual and the Place of Adult Education
Rhonda L. Harvey, Gary Taylor	24	Teacher Burnout: What the Adult Educator Should Know
	28	Dateline

AAACE OFFICERS

STAFF

ONLINE

The Magazine of Online Information Systems

FEATURE ARTICLES

Online Patent Searching: The Realities	by Stuart Kaback	22
Mead Data Central and "All the News That's Fit to Print"	by Maureen Corcoran	32
Systems Suitable for Information Professionals	by John C. Blair, Jr.	36
A Basic Program for Invoicing Dialog Subscription Accounts	by Donald Wismer	51
The Need for an Online Compilation of Compilations	by Richard A. Matula	61

COLUMNS & SPECIAL FEATURES

Letters to the Editor	a column by the readers	4
The Inverted File	a column by the publisher	7
Printout	news from around the world of online information	19
Hardcopy — Reviews of recent writings	by Jean-Paul Emard and Helen A. Gordon	72
Document Delivery — Payment Methods for Documents Can Make a Difference in Delivery Times	by Antoinette Walton Colbert	78
European Notes — European Hosts and Databases	by L.J. Anthony	80
Management Outpost — Mickey Mouse Computers	by Doug Sebe	85

An ONLINE Publication

READING IMPROVEMENT

VOLUME 20 SUMMER, 1983 NUMBER 2

Using Microcomputers to Determine Readability Levels ..... *Phil Feldman, Carolyn Casteel and Maurice Field* 82

The Development and Evaluation of a Teacher Training Model for Reading Readiness ..... *Dennis J. Kear and Barbara Cornehers* 87

Factors of Intelligence in the Reading Comprehension of Learning Disordered/Reading Disordered Youngsters ..... *Tim Roberts* 91

Effects of Teaching Pragmion Decentration Upon Learning to Read ..... *S. Alan Cohen, Joan S. Hyman and Edward E. Bonistini* 96

An Investigation of Miscue Analysis Training for Teachers ..... *Beth Davey and Mary Theofield* 105

Content Analysis in the Classroom: A Specialized Form of Reading ..*John C. Reynolds* 111

Varied Duration and Intensity of Massed Remedial Reading Instruction ..... *Roger J. De Sanit* 114

Reading Attitudes of College Students. Progress Toward Adequate Assessment ..*Mary Jo Anderson, Kathryn Hawes, Charles E. Heerman, ... Karma M. Johns, Suzanne Serber, Kathryn Seltzer, ... Jan Schaffer and Ben Silliman* 120

Reading Effectiveness: A Comparison of a Piagetian Versus a Perceptual Model ..... *George T. Whitson and John D. Hogan* 125

Cognition and Expression ..... *O. Weininger* 130

Reflections on a Dissertation Title Dealing with Children's Interest in Reading Related Activities ..... *Janet Trenka Berrit* 138

Academic Achievement for Elementary Students in the Northern Cheyenne Behavior Analysis Follow Through Project ..... *T. F. McLaughlin, ... Randy Lee Williams, Manuela Cadv, Billie Alan Ripple and Darwin Eakins* 140

The Use of the Picture Potency Formula in Selecting Pictures to Stimulate Stories ..... *Karen Margolis Samson and Alice Legenza Wescott* 146

Reading Interests of Middle School Black and White Students ..... *Princess A. Palmer and Barbara C. Palmer* 151

A Description and Field Test of a Kindergarten Nutrition Curriculum ..... *Robert F. Nicely, Jr., and Ellen S. Frerk* 156

TESOL QUARTERLY

Volume 17, Number 2 □ June 1983

CONTENTS

ARTICLES

The Composing Processes of Advanced ESL Students: Six Case Studies 165
Vivian Zamel

Classroom-Centered Research in Language Teaching: Two Articles on the State of the Art
Introduction 189
Herbert W. Seliger

Classroom-Centered Research on Language Teaching and Learning: A Brief Historical Overview 191
Dick Allwright

The Investigation of Language Classroom Processes 205
Stephen J. Cairs

Listening Comprehension: Approach, Design, Procedure 219
Jack C. Richards

Social Styles and the Second Language Acquisition of Spanish-Speaking Kindergarteners 241
Michael Strong

Activities to Promote Learning and Communication in the Second Language Classroom 259
Florence Stevens

The Development of L2 Intuitions 273
Susan Gass

REVIEWS

English Lessons on PLATO 293
Intensive English Institute, University of Illinois
Reviewed by Vance Stevens

Principles and Practice in Second Language Acquisition 300
Stephen D. Krashen
Reviewed by Karl J. Krahnke

BRIEF REPORTS AND SUMMARIES 307
THE FORUM 315
INFORMATION FOR CONTRIBUTORS 325
Editorial Policy
General Information for Authors
Guidelines for the Preparation of Manuscripts
Publications Received 333
Publications Available from the TESOL Central Office 337
TESOL Membership Application 338

THE JOURNAL

VOLUME 10 • NUMBER 7 • MAY 1983

Advertiser Index	6	Conference Comments	43
Editorial	11	New Publications	44
Publisher's Notes	12	Books	62
Author's Guide	12	Applications	84
Calendar	14	Software/Courseware	124
News	22	New Products	136

Computer Enhanced Collaborative Learning: A New Technology for Education, *By G. Christian Jornstedt.* The impact of computers in education at present is principally in saving time for teachers and students and in raising attitudes and achievement in learning 96

Change: Like it or Not!, *By Lt. Col. William J. Wallisch.* Educators are looking for blackboards and overhead projectors but are confronted with computers, videodisc, cathode ray displays, hand held devices that speak several languages and television sets the size of a wall 102

Microcomputers: Bitter Pills to Swallow—RX for Successful Implementation Efforts, *By Dr. Donald R. Grossnickle & Bruce A. Laird.* An unprecedented re-tooling of the present teaching force will be required as most educators completed teacher training prior to the emergence of computers, of any kind, on the college campus 106

The Computer as a Humanizing Influence in Education, *By Robert Newton Barger.* The computer is not a natural enemy of man. *Quite the opposite!* 109

Interactive Video Instruction and The Dreaded Change in Education, *By Dr. Barrie Jo Price & Dr. George E. Marsh, II.* Interactive video has the potential to transform the educational delivery system in public education 112

THE JOURNAL (USPS 527-090, ISSN 0192-9674) is published eight times per year (Jan., Feb., Mar., Apr., May, Sept., Oct., Nov.) by Information Synergy, Inc., 7 Square St., P.O. Box 992, Acton, MA 01720. Second Class Postage Paid at Acton and other additional entry offices. POSTMASTER: Send Address Changes to THE Journal, P.O. Box 992, Acton, MA 01720

SUBSCRIPTIONS: THE Journal is available free on a limited basis. Other subscriptions (prepaid) at the rate of $15 per year. Canadian subscriptions add mailing charge of $15.00. No other non-U.S. accepted. Single issues and all back issues $2.50 each, prepaid. Phone: 617/263-3607

Training & Development Journal

Published by the American Society for Training and Development
1630 Post Road
Alexandria, VA 22314

BURNING ISSUES

16 In Search of Excellence: A Conversation with Tom Peters
By John Thompson
The coauthor of the best-selling book *In Search of Excellence* describes his study's implications for the change process, leadership theories, management training and the role of the HRD professional in achieving organizational excellence.

24 Employee Training: Current Trends, Future Challenges
By Elizabeth Gorovitz
Worker productivity is the subject of a nationwide debate, and trainers—as a delivery system—are being judged on whether they can meet the challenge.

DESIGNING TRAINING PROGRAMS

30 Training Design By Design: Why We Come Back to Recursiveness
By Murray B. Hubert and W. Norman Smallwood
When a training program's process reflects the program's content, we say it is recursive—and, most likely, successful.

36 The Management of Unlearning: Exploding the "Clean Slate" Fallacy
By John W. Newstrom
Whether the barrier to learning is preexisting knowledge or psychological resistance, it must be confronted and managed before effective new learning can take place

STRESS MANAGEMENT

40 Stress Management Training in the Banking Profession
By Richard J. Mirabile
Stress management is more effective when it focuses on the trainees' specific job responsibilities and organizational environment.

LISTENING SKILLS

44 Therapeutic Listening—A Communication Tool
By Glen M. Morgan
Training in encouragement and blocking techniques goes beyond basic listening concepts to develop more productive manager-employee relationships.

EVALUATING TRAINING PROGRAMS

48 The Numbers Game: Putting Value on Human Resource Development
By Patricia Galagan
After years of being a critical issue, and in spite of scores of methods and models, HRD professionals are still seeking ways to make evaluation meaningful.

52 What Can Trainers Learn from Educators About Evaluating Management Training?
By James C. Galvin
Professional educators developed a flexible evaluation model that can be more useful for management training programs than are technically oriented methods

58 The Success Case: A Low-Cost, High-Yield Evaluation
By Robert O. Brinkerhoff
When a T&D effort doesn't lend itself well to traditional evaluation methods, the success-case method may tell you what you need to know

COMMUNICATIONS

62 Understanding Misunderstanding: A Key to Effective Communication
By John R. Johnson
By understanding the dynamic interrelationships between thoughts and words, we can better understand how and why certain of our messages are unclear—"inner speech" underlies this premise.

Departments

Editor's Page	4
Issues	6
FYI File	9
Gordon Lippitt on	70
New Training Tools	73
Bookshelf	74
Classified	79
Advertising Index	80

Credits: Cover illustration and pp. 30-31, Robert Cohen; photo p. 17, James Cobb; illustration pp. 24-29, Ron Flemmings; illustration p. 69, Aida Mahrogu; illustration pp. 42-43, Amy Girsman.

The NETWORK Vanguard
Selected Current Journal Contents

No. 2 November 1983

The NETWORK Vanguard contains the tables of contents from journals selected for their relevance to adult basic skills education programs and research. The Military Educators Resource NETWORK provides this service four times a year to help Army educational personnel keep informed of current developments in their field.

The tables of contents appear in alphabetical order according to journal name. A list of journals included, along with ordering information can be found on page 2. In addition to the address, frequency of publication and subscription price are provided. In some cases, a single copy (S.C.) price is given. "UMI" indicates that copies of articles can be obtained from University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106. Reprints of articles sometimes are available from the author or the journal itself. If your installation library does not carry a particular journal, your librarian may be able to obtain a copy through the interlibrary loan system.

We welcome suggestions on specific journals or types of journals to include in future issues. If you have a suggestion or an information request, call or write: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667 or use AUTOVON 851-3550 and ask for "off-net government official call to 522-0667."

The Military Educators Resource NETWORK is an information center that is being pilot tested to enhance military educational programs by linking military educators throughout the world. The NETWORK's services and products help these educators keep informed of current research and significant developments in education. A computerized database contains the latest information in adult basic skills education programs and research, descriptions of various programs operated at Army installations, and directory information to be used for referrals. Among the free services and products offered are an inquiry response service, a points of contact referral service, periodic fact sheets, and a quarterly newsletter.

List of Journals

Adult Education Quarterly

Circulation and Advertising Manager
American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 230
Washington, DC 20036

4/yr. $21.00 nonmember, S.C. $5.00

AEDS Journal

Association for Educational Data Systems
1201 Sixteenth Street, N.W.
Washington, DC 20036

4/yr. $32.00 nonmember. UMI

American Educational Research Journal

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution. S.C. $5.50 + postage and handling.

Basic Education

Council for Basic Education
725 Fifteenth Street, N.W.
Washington, DC 20036

8/yr. $25.00; S.C. $2.75. UMI

The Computing Teacher

International Council for Computers in Education
135 Education
University of Oregon
Eugene, OR 97403

9/yr. $16.50

Educational Evaluation and Policy Analysis

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution. S.C. $5.50 + postage and handling

Educational Technology

Educational Technology Publications, Inc.
140 Sylvan Avenue
Englewood Cliffs, NJ 07632

12/yr. $49.00; S.C. $6.00. UMI

Electronic Learning

902 Sylvan Avenue
Englewood Cliffs, NJ 07632

8/yr. $19.00; S.C. $3.50. UMI

Journal of Computer-Based Instruction

Gordon Hayes, Executive Secretary
ADCIS International Headquarters
409 Miller Hall
Western Washington University
Bellingham, WA 98225

4/yr. $18.00 nonmember individual; $36.00 institution (includes annual meeting proceedings); S.C. $6.50. UMI

Journal of Reading

International Reading Association
P.O. Box 8139
Newark, DE 19711

8/yr. $25.00; S.C. $3.25. UMI

Lifelong Learning: The Adult Years

American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 230
Washington, DC 20036

Final Issue. S.C. $2.75. UMI

Lifelong Learning: An Omnibus of Practice and Research

American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 230
Washington, DC 20036

8/yr. $25.00; S.C. $2.75. UMI

Online

Online, Inc.
11 Tannery Lane
Weston, CT 06880

6/yr. $78.00

Phi Delta Kappan

Phi Delta Kappa, Inc.
Eighth and Union
P.O. Box 789
Bloomington, IN 47402

10/yr. $20.00; S.C. $2.50 UMI

Tesol Quarterly: A Journal for Teachers of English to Speakers of Other Languages

James E. Alatis
School of Language and Linguistics
Georgetown University
Washington, DC 20057

4/yr. $30.00 membership includes Journal subscription

T.H.E. Journal (Technological Horizons in Education)

Synergy, Inc.
7 Spruce Street
P.O. Box 992
Acton, MA 01720

8/yr. Free on limited basis; Other substriptions $15.00; S.C. $2.50

VocEd: Journal of the American Vocational Association

American Vocational Association
2020 North Fourteenth Street
Arlington, VA 22201

8/yr. $20.00; S.C. $2.50. UMI

ADULT EDUCATION QUARTERLY

CONTENTS

VOLUME 34 Number 1 Fall 1983
ISSN 0001 8481

ARTICLES

Job Literacy and Job Performance Among Nurses at Various Employment Levels
Larry Mikulecky and Dorothy Winchester 1

Development of a Thurstone Scale for Measuring Attitudes Toward Adult Education
Adrian Blunt 16

Distribution of Adult Education: The Norwegian Case
Odd Nordhaug 29

The Concept of Autonomy in Adult Education: A Philosophical Discussion.
Adèle Chené 38

FORUM

The Boyd and Apps Conceptual Model of Adult Education: A Critical Examination
Peter S. Cookson 48

The Use of Documentary Sources in Adult Learning and Development Research
Sharan B. Merriam and Edward V. Jones 54

BOOK REVIEWS

Penland, Smith, Robert M., *Learning How to Learn: Applied Theory for Adults* 60

Adult Education Quarterly is published quarterly at Washington, D.C., by the American Association for Adult and Continuing Education. Second Class postage is paid at Washington, D.C., and additional mailing offices.

Adult Education Quarterly and *Lifelong Learning: The Adult Years* are published by the American Association for Adult and Continuing Education. The annual fee for professional membership is $55.00, which includes subscriptions to both journals. Subscription price to non-members: Domestic, $21.00 annually; Canada, $26.00; Foreign, $26.00. Individual copies, $5.00. All correspondence concerning membership, change of address, circulation or advertising should be addressed to: Circulation and Advertising Manager, AAACE, 1201 Sixteenth Street N.W., Suite 250, Washington, D.C. 20036.

acds JOURNAL

ASSOCIATION FOR EDUCATIONAL DATA SYSTEMS

VOLUME 16 ■ SUMMER 1983 ■ NUMBER 4

The Effect of All-Capital vs. Regular Mixed Print, as Presented on a Computer Screen, on Reading Rate and Accuracy
Maribeth Henney 205

A Comparison of Factors Affecting the Elective Selection of Introductory Computer Courses
Michael J. Hannafin and Dennis D. Cole 218

Cognitive Processes and Success of Students in Instructional Computer Courses
Dorothy Jo Stevens 228

An Experimental Investigation Utilizing the Computer as a Tool for Stimulating Reasoning Skills
Kathy B. White and Rosann Webb Collins 234

Improvement of Basic Mathematical Skills with PLATO: An Experiment
J. H. Poore and J. W. Hamblen 244

Subject Index 260

Author Index 264

Contents of this journal are available in Microform from Xerox University Microfilms, 300 N. Zeeb Road, Ann Arbor, MI 48106

American Educational Research Journal

Volume 20, Number 3 Fall 1983

309 Characteristics of Pupils Identified as Learning Disabled
LORRIE A. SHEPARD, MARY LEE SMITH, AND CAROL P. VOJIR

333 Multitrait-Multimethod Analyses of the Self-description Questionnaire: Student-Teacher Agreement on Multidimensional Ratings of Student Self-concept
HERBERT W. MARSH, IAN D. SMITH, AND JENNIFER BARNES

359 Matthew Effects in Education
HERBERT J. WALBERG AND SHIOW-LING TSAI

375 Social Power in the College Classroom: The Impact of Instructor Resource Manipulation and Student Dependence on Graduate Students' Mood and Morale
LINDA P. ROUSI

385 Sociocultural and Educational Correlates of Success/Failure Attributions and Evaluation Anxiety in the School Setting for Black, Hispanic, and Anglo Children
ANN C. WILEY, DELWYN L. HARNISCH, KENNEDY T. HILL, AND MARTIN L. MAEHR

411 Group Interaction and Achievement in Small Groups: Stability Over Time
NOREEN M. WEBB AND LINDA K. CULLIAN

425 Relation Between Perseverance and Rate of Learning: A Test of Carroll's Model of School Learning
JASON MILLMAN, GEORGE R. BUGER, PATRICIA A. KLAG, AND CATHY K. PINI

435 Effects of Teacher Enthusiasm Training on Student On-task Behavior and Achievement
EDWARD M. BETTENCOURT, MAXWELL H. GILLETT, MERIDITH DAMIEN GALL, AND RAY F. HULL

451 Feature Frequency and Negative Instances in Concept Learning
RICHARD J. SHUMWAY, ARTHUR L. WHITE, PATRICIA WILSON, AND BRUCE BROMBACHER

461 Reducing Proportion of Chance Scores in Inner-City Standardized Testing Results: Impact on Average Scores: A Research Note
JOHN W. WICK

H-18

basic education September 1983

Dennis Gray, Editor

The State of Education 1
The Candidates and Basic Education 7
Merit Pay: A View from CBE 11
Teacher Fellowships Begin Second Year 13
Staff Changes 15
CBE's Annual Business Meeting 16
CBE Publications 17
Order Form 18
New Publication 19

COMING IN OCTOBER

- A critical analysis of school reform initiatives
- A report on how schools are responding to the first wave of school reform

All in *Basic Education*, CBE's informative monthly bulletin

Basic Education is published monthly except July and August by the Council for Basic Education, 725 Fifteenth Street, N.W., Washington, D.C. 20005

Subscriptions: $18.00 a year. Group subscriptions available at [illegible]. Subscriptions outside the U.S. $[illegible] per year. Bulk orders of [illegible] or more copies mailed to the same address: single copies $1.80. See page 18 for information about CBE membership and orders.

4

basic education October 1983

Dennis Gray, Editor

School Reform: Four Points of View 3
Excellence and the Local School District 9
New Publications 16
CBE Publications 17
Order Form 18
Action for Better City Schools 19

COMING IN NOVEMBER . . . . .

- A review of Gilbert T. Sewall's forthcoming book, *Necessary Lessons: Decline and Renewal in American Schools*
- A report on the responses of professional associations to the demand for reform

All in *Basic Education*, CBE's informative monthly bulletin

Basic Education is published monthly except July and August by the Council for Basic Education, 725 Fifteenth Street, N.W., Washington, D.C. 20005

Subscriptions: $18 a year. Group subscriptions available at [illegible]. Subscriptions outside the U.S. $[illegible] per year. Bulk orders of [illegible] or more copies are mailed to the same address. Single copies $1.80. See page 18 for information about CBE membership and orders.

THE COMPUTING TEACHER

The Journal of The International Council for Computers in Education

October 1983
Volume 11 Number 3

Features

9 ICCE Organization Member News

16 Talk About Teaching Computer Art Graphics
Linda F. Ettinger

20 Do Your Manuals Grow Legs?
Sharon and Ted Burrowes

21 International Computer Problem-Solving Contest Part I – 1983 Elementary Division Problems
Donald T. Piele

27 Education Through Entertainment: An Approach to Computer Instruction in the Elementary Schools
Michael Bigelow Dixon and Alison King

30 Big Kids Helping Little Kids/Single Keystroke Logo
Kathleen Martin and Tim Riordon

34 How Do Teacher and Student Perceptions of CAI Software Compare?
Barbara Signer

37 A Nod to the Novice #3
Bob Shapura

39 Hard Disk Data Storage
Walter V. Prelle

41 Order of the Apple
Jacqueline A. Boss

51 A Program to Create Drill Programs
Dean S. Rossa

53 Computer Coordinator Group: A Proposed ICCE Special Interest Group

54 General Multiple Choice Quiz
James Watson, Jr.

60 The Computer as Tutor, Tool and Tutee in Composition
Letty M. Schantz

63 Project Computer Outreach: A Traveling Microcomputer Van

64 Pascal in High School
John P. Bromley, Jr.

Departments

Cover ICCE Organization Members
3 Editor's Message
4 Letters to the Editor
7 What's New
16 Computers in the Arts and Humanities
30 The Logo Center
44 Software Reviews
60 Computers in the Teaching of English
68 Book Reviews
72 Classified Ads
72 Index to Advertisers

Index to Coming Attractions

63 ACM Annual Conference
53 Calif. Educ. Data Proc. Assoc. Conference
32 Computer Applications in Lang. Arts Workshop
6 MECC '83
47 Nat'l. Conf. and Training Workshops on Tech. in Special Education
18 NCTM Conference
50 NECC '84
26 NY State AEDS Conf.
36 San Diego Computer Fair

Educational Evaluation and Policy Analysis

Volume 5, Number 3 Fall 1983

Validity and Use of the Classroom Environment Scale
Darrell L. Fisher and **Barry J. Fraser** 261

A Board's-eye View of a Counseling Program
Lillian Biermann Wehmeyer 273

Sex Differentials in the Salaries of College Admissions Officers
David W. Chapman 285

Problems with Research on Educational Leadership: Issues to be Addressed
Joseph Murphy, Philip Hallinger, and **Alexis Mitman** 297

Studying Enrollment Decline (and other Timely Issues) via the Case Survey
Michael A. Berger 307

Formulation of a Structural Equation Model for the Evaluation of Curriculum
Joan K. Gallini and **Margaret E. Bell** 319

Economic Evaluation of Education: A Critical Analysis in the Context of Applications to Educational Reform in El Salvador
Steven J. Klees and **Stuart J. Wells** 327

Evaluating Educational Programs: An Integrative, Causal-modeling Approach
Margaret C. Wang and **Herbert J. Walberg** 347

Revisiting the Role of Organizational Effectiveness in Educational Evaluation
Linda S. Lotto 367

Book Reviews

Evaluation in School Districts: Organizational Perspectives by **Adrianne Bank** and **Richard C. Williams** (*Eds.*) with the assistance of **James Burry**
William G. Spady 379

Reanalyzing Program Evaluations by **Robert F. Boruch, Paul M. Wortman, David S. Cordray,** and **Associates**
Robert G. St. Pierre 383

educational technology

Volume XXIII
Number 10

October, 1983

About This Issue

A general issue examining aspects of educational technology

CONTENTS

6 Technology News

8 TECHnically Speaking
It's Too Early for "The Answers"
Quantity Versus Quality in Education

9 Designing the Human-Computer Interface
Harold J. Goldes

16 Computer Potentials and Computer Educators
A Proactive View of Computer Education
Priscilla Norton

20 Classroom Applications of
Electronic Spreadsheet Computer Software
Patricia H. Tolbert and Charles M. Tolbert II

23 Educational Recordkeeping at a Large Corporation
The NCR System
Douglas M. Yeager

26 Hypothesis Testing with Computer Assisted Instruction
Helen J. Schwartz

28 Instantaneous Feedback in
the Teaching/Learning Laboratory
James O. Derry and Ralph R. Behnke

30 Microcomputer Based Simulation
in Training Elementary Teachers
Harold R. Strang and Ann Booker Loper

32 Educational Technology Columnists
Joseph M. Arnady Field Testing: Time for Alice
and Other Real People
James E. Eisele Computers: What Every Educator
Really Ought to Know
Elwyn Rees Rising of the Phoenix

39 The Development of Effective Media
William H. Griffin

43 Educational Technology and the
Development of Human Resources in Brazil
Juracy C. Marques and Ruth Angelo Beaver

45 Educational Technology Professional Literature Reviews

50 Educational Technology Product Reviews

59 New Products and Services

62 ERIC Reports

63 Learning Can Be Fun

educational technology

Volume XXIII
Number 9

September, 1983

About This Issue

A general issue examining aspects of educational technology

CONTENTS

6 TECHnically Speaking

8 Technology News

9 Critical Evaluation of Educational Software
from a Social Perspective
Uncovering Some Hidden Assumptions
J. Peter Rothe

15 Three Roles for the Computer in Education
Joseph M. Scandura

17 Profile of Change in Education
Microcomputer Adoption Status Report
Donald R. Grossnickle, Bruce A. Laird,
Thomas W. Cutler, and James A. Telfer

20 Technical Specifications for Adapting Apple
Microcomputers for Use by Students
with Severe Physical Disabilities
Ann Ryder, Linda S. Cox, and Bill K. Tilley

22 Toward the Development of Rhetoric and Context
in the Communication of Meaningful Verbal
Information in Multimedia Instructional Materials
George R. McMeen

26 Is Schooling an Unnatural Act?
Thomas M. Sherman

30 Standardized Testing and Computer Technology
New Opportunities for Improvement
C. Rodney Killian

32 Educational Technology Columnists
Roberta A. Braden Course Revision and Course Re-Design
Leslie J. Briggs Textbooks Without Objectives
Albert L. Goldberg Aboard the King Chat V:
The Subject Was Technology
Dean R. Spitzer The Power of Groups (II)

37 Letters to the Editor
Microcomputers in Education
Technology to Support Goals

38 The Preparation of Computer Educators
Walter Dick

40 A Systematic Process for Getting Microcomputers
into the College Classroom
H. Ray Studer and Nuemi M. Paz

43 Incident Evaluation: A New Technique
for Student Evaluations of Their Instructors
Robert F. Rubeck and Darrin Gil

46 Educational Technology Professional Literature Reviews
52 Educational Technology Product Reviews
59 New Products and Services
62 ERIC Reports
63 Learning Can Be Fun

ELECTRONIC LEARNING

October 1983
Volume 3, Number 2
Published by Scholastic Inc.

	FEATURES	COLUMNS	DEPARTMENTS
GENERAL INTEREST	 88 Cover Story Computers on the Playing Field. They may not actually score the winning touchdown, but microcomputers are now helping high school athletic coaches develop the teams and the strategies to do so. In this article Phillips Academy assistant athletic director Paul Kalkstein takes a look at all of the ways that the new electronic recruit can make a coach's administrative chores easier ones to tackle	26 Opinion When is a Pirate a Thief? Educators who copy software illegally are only stealing from themselves, writes California educator LeRoy Finkel	18 EL News Survey reports: State governments are taking an increasingly active role in the growth of educational computing • ICCE proposes a solution to the problem of illegal software copying (including a model outline for a district policy)
HARDWARE	94 EL's October Buyer's Guide Video Cameras. Advice on how to buy and set up an entire video production system for less than $3000—and on how to use it once it's yours.	68 Understanding Technology Voice Synthesis. Talking computers are coming to the classroom. Here's a look at what they are and how they're being used.	134 New Hardware Featuring Atari's new line of XL micros, Radio Shack's new portable "lap" computer, and a range of new products for use in Special Ed.
SOFTWARE	77 SOFTWARE SPECIAL: Building a Software Library. How do you create a library of computer software that meets your needs—and doesn't break your budget? Six experienced educators tell how they get the most out of every software dollar and offer sample budgets for beginners. PLUS: A comparative look at the software reviewing organizations that can help you find the software you want.	32 States to Watch North Carolina: A Software Evaluation Plan with National Implications. When North Carolina's team of software reviewers speaks, teachers, publishers, and other state education departments listen.	114 Software: Side by Side. Comparative reviews of six K-8 Math packages and five Computer Literacy programs. 118 Software: Reviews. Five reviews, with screen shots.
ADMINISTRATION	103 Electronic Learning's In-Service Workshop Part II: Computers in Education. Including six reproducible activity sheets	44 Administrator's Notebook Electronic Spreadsheets. What they are, what they can do (including a buyer's guide)	
TEACHING		58 Computer Science Teaching Pascal: The Second Nine Weeks. A complete course outline	130 Book Reviews Two microcomputer handbooks, for the reading teacher and the school librarian.

Editor's Note ... 6 Broadband ... 34 New Books and Materials ... 132 EL Network ... 141
Letters ... 10 New Software ... 120 Resource Center ... 136 EL Problem ... 142

[illegible]

Journal of Computer-Based Instruction

Volume 10, Numbers 1 and 2 — Summer 1983

TABLE OF CONTENTS

Peter Dean Lecture: Content Structuring and Question Asking for Computer-Based Education — 1
Keith A. Hall

Special Issue on Intelligent Computer Assisted Instruction

GUIDON — 8
William J. Clancey

Quantitative and Qualitative Simulation in Computer-Based Training — 16
Albert Stevens and Bruce Roberts

MENO-II: An AI-Based Programming Tutor — 20
Elliot Soloway, Eric Rubin, Beverly Woolf, Jeffrey Bonar, and W. Lewis Johnson

An Intelligent CAI System for Teaching Equation Solving — 35
Brian S. Lantz, William S. Bregar, and Arthur M. Farley

An Empirical Comparison of Two PLATO Text Editors — 43
Ben Shneiderman, Robert Hill, Ruben Jacob, and Wally Mah

Professional Report: Faculty Training and Development in Academic Computing — 51
Sheldon P. Gordon

Book Reviews — 55
David Mudrick

ERIC Research Abstracts — 56

The *Journal of Computer-Based Instruction* (ISSN 0098-597X) is published in the Winter, Spring, Summer and Autumn (February, May, August and November) by the Association for the Development of Computer-Based Instructional Systems (ADCIS). The *Journal* is sent free of charge to ADCIS members. For non-members, the annual subscription rate to individuals in the U.S. is $18.00; to individuals in Canada or in foreign destinations $22.00 for surface mail and $30.00 for foreign airmail. Institutional subscriptions include a bound copy of the annual meeting Proceedings: rates are $36.00 U.S.; other addresses are $46.00 for surface mail delivery, $56.00 for airmail delivery. Single copies and back issues are available in the U.S. for $8.50 each; for other destinations add $1.50/copy for surface mail or $3.50/copy for airmail. Copies of the Proceedings issue are $15.00 for U.S. addresses, $20.00 for other addresses.

Address correspondence about new or current subscriptions, advertising, change of address, and orders for back issues to Gordon Hayes, Executive Director, ADCIS International Headquarters, Miller Hall 409, Western Washington University, Bellingham, Washington 98225. Requests for permission to reprint, correspondence concerning manuscript preparation, and manuscripts submitted for publication consideration should be sent to Allen Avner, Editor, *Journal of Computer-Based Instruction*, 252 Engineering Research Lab, 103 South Mathews Avenue, University of Illinois, Urbana, Illinois 61801.

Non-profit organization postage paid at Ft. Dodge, Iowa 50501.

Published Quarterly
The Association for the Development of Computer-Based Instructional Systems
International Headquarters
Miller Hall 409
Western Washington University
Bellingham, Washington 98225

A 5

JOURNAL of READING

VOLUME 27, NO. 1 OCTOBER 1983

CONTENTS

5 Commentary
Gerard Giordano
Is experimental research showing us?

8 Using the spelling/meaning connection to develop word knowledge in older students
Shane Templeton
The spelling of English words very often reflects the meaning of the word more than its sound. This article offers an instructional sequence to help students make use of this in learning to spell and increase their vocabulary

16 The Victor Hugos in Dan country—developing a mother-tongue body of literature in a neoliterate society
Margrit Bolli
A literacy program in Africa trains new writers to produce a written literature for their new readers.

22 Test Review
Myra O. Smith
The Boder Test of Reading-Spelling Patterns

28 Biology teachers' use of readability concepts when selecting texts for students
Dixie Lee Spiegel, Jill D. Wright
This study explores teachers' attitudes toward text selection, focusing on text characteristics and reasons for a particular selection.

36 Some implications of metacognition for reading instruction
Oran Stewart, Ebo Tei
Reviews the research on the relationship of metacognition to fluent reading. Offers techniques for developing knowledge of and fluency in reading.

44 Think aloud—Modeling the cognitive processes of reading comprehension
Beth Davey
Teachers verbalize their thoughts while reading orally, modeling their thinking about the text, then students practice the technique to enhance their comprehension.

48 Clinical supervision: A tool for the reading specialist
James F. Lindsey, Annette Dambrosio Bonquist
This article presents the dual role of the reading specialist and clinical supervisor. A format for pre and postconferences is also provided.

52 A comprehension-centered reading program using Reader Selected Miscues
Sharon Hoge
Reading teachers can use the RSM approach to gain information about particular difficulties students have with their reading, and to develop strategy lessons to help overcome these problems.

56 Selected references for reading skills in industrial education
A. Gail Cranney, William E. McFall
A bibliography of sources dealing with teaching reading in industrial arts courses in secondary school.

62 Use the public library with adult literacy students
Marguerite Crowley Weibel
Many materials suitable for adult literacy students are available in public libraries. This article suggests what types of materials are appropriate and how to use them.

66 IRA Code of Ethics

70 Open to Suggestion
What are superintendents reading?. Students' suggestions: "Teach us study skills!". Vocational education and vocabulary of a "third kind". The scrapbook research paper. Reading tournaments and reward systems improve reading speed. When students read the unreadable

78 ERIC/RCS
Holly O'Donnell
Beyond computer literacy

82 Reviews
Books for adolescents. Adult basic literature. New from IRA. Breaking through Beginning College Reading. Rapid Reading for Professional Success. Briefly noted

92 Research
John T. Guthrie
Science education research

Front cover by Charles Spink

International Reading Association
800 Barksdale Road
P.O. Box 8139
Newark, Delaware 19714, USA

Lifelong Learning: The Adult Years

American Association for Adult and Continuing Education

June 1983 (ISSN 0148 2165) Volume 6 Number 10

CONTENTS

Paz G. Buttedahl 4 Communications Technology and Adult Education: Can Participation Be Encouraged?
Tom Ridlehuber 7 Presidents' Forum
Dennis R. Parks 8 Adults in Transition: Do Educational Programs Respond?
Robert A. Luke 10 If the Past be Prologue
Arlene Fingeret 13 Culture Shock: Practitioners Returning to Graduate School
Stephen Brookfield, Jindra Kulich 15 Book Reviews
J. Allen Queen, D. Rosalind Hammond 18 Preparing Teachers for the Adult Learner: A Simulation
James A. Farmer Jr. 20 The Contribution of Adult and Continuing Education Specialists to Human Resources Development (HRD) Teams
Index Volumes 1-6 25

Editorial and Business Offices

AAACE OFFICERS

STAFF

Lifelong Learning: The Adult Years will complete its sixth and final volume year with the June 1983 issue. A new periodical similar in style and format will follow with its first issue in September 1983. The new AAACE publication will be called *Lifelong Learning: An Omnibus of Practice and Research* and will be published eight times a year: September, October, November, January, February, April, May and June.

Lifelong Learning: An Omnibus of Practice and Research

American Association for Adult and Continuing Education

September 1983 (ISSN 0740-0578) Volume 7 Number 1

CONTENTS

Teaching Reading to the ABE Student Who Cannot Read — Linda Thistlethwaite 5
Coping with Change: Married Women in Graduate School — Linda H. Lewis 8
The Adult Education Act: Issues and Perspectives on Reauthorization — Paul G. Taylor 10
Understanding Program Costs and Finances — Elizabeth Swain Kasl and Richard E. Anderson 12
Demonstration Program for Training Senior Teachers — Cynthia Stuen 15
Educational Strategies for Social Problem Solving — Robert Luke 19
Computer Competency: Tailoring Inservice to Professional Needs — Joyce E. Killian and Robert L. Killian 21
President's Forum — Donald Seaman 26
Techniques 29
Editorial 4

Cover design courtesy of Carl Sherrill, University of Missouri-Kansas City

Editorial Office

Business Office

Editorial Board

AAACE OFFICERS

Staff

9

ONLINE

ISSN 0146-5422

The Magazine of Online Information Systems Volume 7 Number 5

FEATURE ARTICLES

BRS/After Dark: The Birth of Online Self-Service	by Richard V. Janke	12
Knowledge Index: A Review	by Marydee Ojala	31
A Professional Librarian Looks at the Consumer Online Services: The Source, CompuServe, Apple Bulletin Board, et al	by Patrick R. Dewey	36
Experiences at Exxon in Training End-Users to Search Technical Databases Online	by Kenneth R. Walton and Patricia L. Dedert	42
Microcomputers with a Bald Face, or You've Got to Begin Somewhere	by Donald Wismer	52
Effective Searching in Database Abstracts	by Robert Wagers	60
Interactive Simultaneous Remote Searching: Evolution of Conference Call Searching to a Reliable Procedure	by Rodes Trautman and Christee King	90
Maximizing Search Quality through a Program of Peer Review	by Diane Glunz and Eileen Wakiji	100
SCI-MATE™: A Menu-Driven Universal Online Searcher and Personal Data Manager	by Catheryne Stout and Thomas Marcinko	112
A Review	by Joseph R. Matthews	118

COLUMNS & SPECIAL FEATURES

Letters to the Editor	a column to the readers	4
The Inverted File	a column by the publisher	6
Printout	news from around the world of online information	9
Document Delivery-Key Word Tools	by Antoinette Walton Colbert	119
European Notes-European Networks	by L. J. Anthony	122
Management Outpost-To Err is Human	by Douglas B. Seba	127

PHI DELTA KAPPAN September 1983 • Volume 65 • Numl 1

CONTENTS

FEATURES

		STUDIES OF SCHOOLING
Michael J. Bakalis	7	Power and Purpose in American Education
Milton Goldberg and James Harvey	14	A Nation at Risk: The Report of the National Commission on Excellence in Education
Patricia Albjerg Graham	19	The Twentieth Century Fund Task Force Report on Federal Elementary and Secondary Education Policy
Adrienne Y. Berlin	22	The Educational EQuality Project: Focus on Results
		THE 15th ANNUAL GALLUP POLL
Stanley M. Elam	26	The Gallup Education Surveys: Impressions of a Poll Watcher
George H. Gallup	33	The 15th Annual Gallup Poll of the Public's Attitudes Toward the Public Schools
Robert L. Spaulding	48	A Systematic Approach to Classroom Discipline, Part I
Gregory Anrig and Archie Lapointe	52	NAEP: The Nation's Report Card
Richard A. Gibboney	55	Learning: A Process Approach from Francis Parker
William E. Cotter	57	Schumpp Reconsidered: The Relationship Between Religion and Public Education
William G. Scharfe	60	Layoff Is a Dirty Word
Charles Morrigan	62	Administrative Solutions

DEPARTMENTS

	2	THE EDITOR'S PAGE Riding the Crest
Anne C. Lewis	3	WASHINGTON REPORT
Chris Pipho	5	STATELINE
Thomas J. Hilgers	63	DE JURE Supreme Court Permits State Tax Deductions for Nonpublic Schools
Michael G. Bruce	64	IN EUROPE Parents Voting with Their Children's Feet
	66	PROTOTYPES A Special Program for Special Students: The Alternate High School, George P. Cuevas
	67	RESEARCH State Departments of Education Activists to Reduce School Violence and Vandalism, Patricia A. Staphens and Irwin A. Hyman
Vernon N. Smith	69	BOOKS
	72	NEWSNOTES
	74	BACKTALK Cover Illustration: Ned Shaw

TESOL QUARTERLY Volume 17, Number 3 □ September 1983

CONTENTS

ARTICLES

Does Second Language Instruction Make a Difference? A Review of Research 359
Michael H. Long

The Challenge of Mai Chung: Teaching Technical Writing to the Foreign-Born Professional in Industry 383
Sheryl Pearson

The Influence of *Teachers and Peers on Second Language Acquisition* in Bilingual Preschool Programs 401
Ray Chesterfield, Kathleen Barrows Chesterfield, Katherine Hayes-Latimer, and Regino Chávez

The Articulatory Target for Final -s Clusters 421
Mary S. Temperley

Simplification of Input: Topic Reinstatements and Their Effects on L2 Learners' Recognition and Recall 437
Craig Chaudron

Toward a Functional *ESL Curriculum in the Elementary* School 459
Anna Uhl Chamot

Evaluation of an English as a Second Language Program for Southeast Asian Students 473
Darrell Weslander and Gene V. Stephany

REVIEWS

American Kernel Lessons: Advanced 481
Robert O'Neill, Edwin T. Cornelius, Jr., and Gay N. Washburn
Reviewed by Nancy Rennau Tumposky

One to One: Resources for Conference-Centered Writing 484
Charles W. Dawe and Edward A. Dornan
Reviewed by Melanie Schneider

BRIEF REPORTS AND SUMMARIES 489

THE FORUM 497

INFORMATION FOR CONTRIBUTORS 503
Editorial Policy
General Information for Authors

Publications Received 505

Publications Available from the TESOL Central Office 509

TESOL Membership Application 528

T·H·E JOURNAL

VOL 13, NO 1 SEPTEMBER 1985

Editorial	11	**Books**	67
Publisher's Notes	14	**Applications**	83
Product Profile	19	**Software & Courseware**	150
Calendar	20	**New Products**	169
News	27	**Advertiser Index**	184
New Publications	46		

Innovations in Educational Technology, by Dr. Donald J. Senese, Assistant Secretary, U.S. Department of Education. A description of how the Federal Government has recognized the need for education to increase the number of courses available in computer science and interactive video together with details on how to secure program funding **98**

Sensible Computer Advice, by Prof. Frank Greenwood, Department of Management, and Dr. Richard F. James, Business Education and Office Administration Department, University of Wisconsin. An orderly outline of simply stated areas of inquiry which can be explored in order to set up a successful computer lab at any level of a school or small college **107**

New Directions For Education in the Information Society?, by Dorothy K. Deringer, Program Director, National Science Foundation. Based on the statement that "we have a new imperative in our society – the computer," this article examines the trends in education with technology which are being mandated by society's transition to the information age **110**

Types of Undergraduate Programs in Computer Science/Data Processing Found in North America, by E.M. Teagarden, Chairman, Division of Business, Industry and Public Administration, Dakota State College. Brief descriptions of numerous curriculum alternatives for all college levels which have been considered in depth by the Association for Computing Machinery and the Data Processing Management Association. This curriculum planning guide incorporates extensive input to needs assessment from industry **114**

Using A Time-Sharing Computer System in the Classroom Large-Screen Projection Television As An Interactive Teaching Aid, by Charles D. Burle, Dean, Dyersburg State Community College. For less than $3,000 per classroom, a Community College has successfully integrated its campus time sharing computer system into projection television sets under interactive teacher control **121**

Management Training For Non-Managers, by Dr. Philip C. Grant, Head, Department of Business Administration, Husson College. The rift between an organization's managerial and non-managerial populations can be substantially closed by providing non-managers with some management training. The included suggestions apply to education, government and both business and industry **125**

Maintaining Educational Quality in a High Enrollment Computer Data Processing Program, by Dr John R. Friedrich, Chairperson, Data Processing Department, San Antonio College. An administrator's synopsis of what changes were necessary in staff, curriculum and equipment, to enable one college to provide business data processing education to almost 10,000 students in 455 class sections during the past school year **132**

A Computer Awareness Program for All Teachers and Students, by Prof. Norman T. Bell, Michigan State University. From a successful implementation, a complete outline of an entry level computer literacy program including course and lesson structure, teacher guidelines and homework assignments **138**

Writing and Reading Instruction Using the Microcomputer, by Claire Doyle, Assistant Professor, North County Community College. In the February 1985 issue of T.H.E. Journal Prof Doyle and Robert Levin described the use of microcomputers in the learning lab of their college. They subsequently received many inquiries from educators across the nation regarding specifics of their instruction. In this article Prof Doyle addresses some of those questions **144**

The Future of Computers in Education: What are the Right Questions?, by John Wedman, Assistant Professor of Education, University of Northern Iowa. Addresses the future of computers in education and challenges some of the common questions being asked about this topic. The idea of educators creating their own future with computers is presented along with an outline of the process **147**

ON OUR COVER

VocEd
Journal of the American Vocational Association
August 1983 Vol 58 No 5

Features

30 The Business of Teaching — Gladys B Santo

33 Making the Most of Your Prime Time — Thomas O Harris and Gay Sweet Harris

34 Reading for Vocational Literacy — Larry Mikulecky and William Diehl

36 All the News That's Fit to Teach — Betty J Sullivan

38 Keep Pace With Industry: Take a Tour — Hazel C Davis and Steven Golen

39 Easing Into English — Curtis H Bradley and Joan E Friedenberg

40 Learning Through Cooperation — Lois M Alt and Cheryl G Fedje

42 How To Turn Off a Co-op Employer — Herbert C Lowe

43 A New Teacher's Survival Kit — John Loughlin

44 Conference Plans Made Painless — D R McPeak

46 Planning for Computers — John M Bunch

47 Attracting Women to Nontraditional Careers — Susan Crosswhite

49 *AVA National Teacher Concerns Survey*

1983-84 VocED Themes

August - Annual Teaching Issue
September Vocational Education in Community Colleges
October Retooling the Work Force
November/December - Keeping the Profession Current
January/February Policy Programs and Funding
March Math Science and Technology Bridging the Gap
April The Application of Technology to Teaching
May The Implications of Societal Change

Departments

6 Letters
17 *Research in Action*
20 *Executive Directions*
22 Safety First
25 Forum
29 About This Issue
51 Books
54 Teaching Aids
60 Advertisers
61 *Vocational Viewpoint*

Cover by Jim Vincent

Coming Next Month

During the past three decades the community college has become one of the most innovative and dynamic settings for vocational education in the country. In our September issue, our authors will take a close look at the kind of jobs our community colleges are doing. How are they responding to the challenges of the high-tech age? How successful have cooperative programs between college and industry been? How have postsecondary institutions handled the dual problems of governance and the tremendous increase in enrollment? And exactly who are the students enrolling in community college vocational programs? In addition, AVA's eleven leaders will report on how they stand on the postsecondary setting, their missions, the current of their programs and their expectations for the future. Vocational educators won't want to miss this penetrating look at one of the most exciting new directions in the field.

VocEd
Journal of the American Vocational Association
October 1983 Vol 58 No 7

Features

22 Retooling the Work Force — Paul E Barton

25 Workers Learn to Map a New Course — Joseph McGarvey and Larry Vickery

27 Joining Hands To Serve Adults in Need — Carol A. Hodgson

29 Unemployment Is Rough on Families — Barbara Atkins, Yvonne Ferguson, and Martha Lee Blankenship

31 Local Responses to a National Dilemma
State of California, General Motors, United Auto Workers — Michael J. Bielke
Indian Meridian Area Vo-Tech School, Oklahoma — Patsy Allen and Fred A. Shultz
Greater Lowell Regional Vo-Tech School, Massachusetts — J. Nelson Burns
Metropolitan Re Employment Project, St. Louis, Missouri — Claudia Peers
Arch A. Moore, Jr., Vocational Center, West Virginia — Raymon Cunningham

39 Convention Preview

1983-84 VocED Themes

August - Annual Teaching Issue
September Vocational Education in Community Colleges
October *Retooling the Work Force*
November/December Keeping the Profession Current
January/February Policy Programs and Funding
March Math Science and *Technology Bridging the Gap*
April The Application of Technology to Teaching
May The Implications of Societal Change

Departments

6 Letters
7 Bylaws Changes
Call for Nominations
8 Executive Directions
10 Forum
15 It Works!
19 Research in Action
21 About This Issue
62 Safety First
64 Books
66 Teaching Aids
68 Advertisers
69 Vocational Viewpoint

Cover by John Hetuly

Coming In November

For vocational educators the need to keep up to date is a professional necessity. The rapid pace of technology means that today's innovations can quickly become tomorrow's outmoded techniques. In the November issue of VocEd we'll examine how important professional development is to vocational educators and the roles teacher educators, administrators and industry can play. We'll take a look at how some vocational teachers keep current, making sure that both they and their students are ready for an ever-changing future.

The NETWORK Vanguard
Selected Current Journal Contents

No. 3 February 1984

The NETWORK Vanguard contains the tables of contents from journals selected for their relevance to adult basic skills education programs and research. The Military Educators Resource NETWORK provides this service four times a year to help Army educational personnel keep informed of current developments in their field.

The tables of contents appear in alphabetical order according to journal name. A list of journals included, along with ordering information can be found on page 2. In addition to the address, frequency of publication and subscription price are provided. In some cases, a single copy (S.C.) price is given. "UMI" indicates that copies of articles can be obtained from University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106. Reprints of articles sometimes are available from the author or the journal itself. If your installation library does not carry a particular journal, your librarian may be able to obtain a copy through the interlibrary loan system.

We welcome suggestions on specific journals or types of journals to include in future issues. If you have a suggestion or an information request, call or write: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667 or use AUTOVON 851-3550 and ask for "off-net government official call to 522-0667."

The Military Educators Resource NETWORK is an information center that is being pilot tested to enhance military educational programs by linking military educators throughout the world. The NETWORK's services and products help these educators keep informed of current research and significant developments in education. A computerized database contains the latest information in adult basic skills education programs and research, descriptions of various programs operated at Army installations, and directory information to be used for referrals. Among the free services and products offered are an inquiry response service, a points of contact referral service, periodic fact sheets, and a quarterly newsletter.

LIST OF JOURNALS

Adult Education Quarterly

Circulation and Advertising Manager
American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 230
Washington, DC 20036

4/yr. $21.00 nonmember; S.C. $5.00

AEDS Journal

Association for Educational Data Systems
1201 Sixteenth Street, N.W.
Washington, DC 20036

4/yr. $32.00 nonmember. UMI

American Educational Research Journal

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution; S.C. $5.50 + postage and handling.

The Computing Teacher

International Council for Computers in Education
1787 Agate Street
University of Oregon
Eugene, OR 97403

9/yr. $16.50

Educational Evaluation and Policy Analysis

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution; S.C. $5.50 + postage and handling

Educational Researcher

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

10/yr. $15.00 nonmember individual; $19.00 institution; S.C. $2.50 + $1.50 postage

Educational Technology

Educational Technology Publications, Inc.
140 Sylvan Avenue
Englewood Cliffs, NJ 07632

12/yr. $49.00; S.C. $6.00. UMI

Electronic Education

Electronic Communications, Inc.,
1311 Executive Center Drive, Suite 220
Tallahassee, FL 32301

8/yr. $18.00; S.C. $3.00

Journal of Computer-Based Instruction

Gordon Hayes, Executive Secretary
ADCIS International Headquarters
409 Miller Hall
Western Washington University
Bellingham, WA 98225

4/yr. $18.00 nonmember individual; $36.00 institution (includes annual meeting proceedings); S.C. $6.50. UMI

Journal of Reading

International Reading Association
P.O. Box 8139
Newark, DE 19711

8/yr. $25.00; S.C. $3.25. UMI

Lifelong Learning: An Omnibus of Practice and Research

American Association for Adult and Continuing Education
1201 Sixteenth Street, NW., Suite 230
Washington, DC 20036

8/yr. $25.00; S.C. $2.75. UMI

Phi Delta Kappan

Phi Delta Kappa, Inc.
Eighth and Union
P.O. Box 789
Bloomington, IN 47402

10/yr. $2.00; S.C. $2.50. UMI

Reading Improvement

Project Innovation
Box 566
Chula Vista, CA 92010

4/yr. $8.00 Individual; $11.00 institution.

Reading World

College Reading Association
3340 Danbury Avenue
Springfield, MO 65807

4/yr. $25.00; S.C. $5.00. UMI

T.H.E. Journal (Technological Horizons in Education)

Synergy, Inc.
7 Spruce Street
P.O. Box 992
Acton, MA 01720

8/yr. Free on limited basis; Other subscriptions $15.00; S.C. $2.50

Training and Development Journal

Subscription Department
American Society for Training and Development
Suite 305
600 Maryland Avenue, S.W.
Washington, DC 20024

12/yr $40.00 nonmember

VocEd: Journal of the American Vocational Association

American Vocational Association
2020 North Fourteenth Street
Arlington, VA 22201

8/yr. $20.00; S.C. $2.50. UMI

ADULT EDUCATION QUARTERLY

CONTENTS VOLUME 34, NUMBER 2, WINTER, 1984
ISSN 0001-8481

ARTICLES

Literacy and Social Milieu: Reading Behavior of The Black Elderly
Marsel Heisel and Gordon Larson 65

The Gatekeepers: A Multivariate Study of Accepted and Rejected Adult Education Research Conference Abstracts (1970–1980)
Ingrid Pipke 71

A Methodology for the Analysis of the Psychosocial Profiles of Low Literate Adults
Robert D. Boyd and Larry G. Martin 85

FORUM

Reappraising the Professionalism of Adult Education
Carol D. Brown 97

REACTION

In Search of a Real Analysis: CBAE Leaders Respond to the Collins Critique
James T. Parker 105

Rebuttal to: A Critical Analysis of Competency Based Systems in Adult Education
Sandra Ratcliff 111

BOOK REVIEW

Jones: Bogdan, R. C. *Qualitative Research For Education: An Introduction to Theory and Methods* 115

ADULT EDUCATION REPORTS 119

Adult Education Quarterly is published quarterly at Washington, D.C., by the American Association for Adult and Continuing Education. Second class postage is paid at Washington, D.C. and additional mailing offices.

Adult Education Quarterly and *Lifelong Learning: An Omnibus of Practice and Research* are published by the American Association for Adult and Continuing Education. The annual fee for professional membership is $55.00, which includes subscriptions to both journals. Subscription price to non-members: Domestic, $21.00 annually; Canada, $26.00; Foreign, $28.00. Individual copies, $5.00. All correspondence concerning membership, change of address, circulation or advertising should be addressed to Circulation and Advertising Manager, AAACE, 1201 Seventeenth Street N.W., Suite 250, Washington, D.C. 20036

Special Issue
on
Applications of Microcomputers for Instruction and Educational Management

TABLE OF CONTENTS

Table of Contents 1

Editor's Note 2

Introduction 3

Section I—Microcomputers in Instruction

Selecting Microcomputers for the Classroom: A Rethinking After Four Years 9
David B. Thomas and Donald H. McClain

Toward More Effective Microcomputer Courseware Through Application of Systematic Instructional Design Methods 23
M. D. Roblyer

Evaluating Software 33
Donald C. Holznagel

Computer Literacy Revisited 41
Daniel Klassen

Two Examples of Computer-based Learning on Personal Computers 49
Alfred Bork

Technology Training: In Search of a Delivery System 55
Patricia Sturdivant

Section II—Microcomputers in Educational Management

Selection and Acquisition of Administrative Microcomputer Software 69
Sue Talley

Administrative Uses of the Microcomputer 83
Dennis W. Spuck and Gene Atkinson

The Microcomputer in the Administrative Office 91
Fred Huntington

Section III—Futures of Educational Computing

Computers and the Future of Education 101
Paul Berg and William J. Brumble

AEDS JOURNAL 1

American Educational Research Journal

Volume 20, Number 4 Winter 1983

469 Differential Course-taking Hypothesis Revisited
CAMILLA PERSSON BENBOW AND JULIAN C. STANLEY

475 Reply to Benbow and Stanley
KARL L. ALEXANDER AND AARON M. PALLAS

479 Using Requests Effectively in Peer-directed Instructional Groups
LOUISE CHERRY WILKINSON AND FRANCESCA SPINELLI

503 Achievement Motivation: An Investigation of Adolescents' Achievement Patterns
LOUIS A. CASTENELL

511 Self- and Teacher Expectancy Effects on Academic Performance of College Students Enrolled in an Academic Reinforcement Program
NORRIS M. HAYNES AND SYLVIA T. JOHNSON

517 Children's Use of Text Structure in the Recall of Expository Material
BARBARA M. TAYLOR AND S. JAY SAMUELS

529 Reassessing the Discrimination Against Women in Higher Education
KENNETH L. WILSON AND EUI HANG SHIN

553 Context of Success, Affective Arousal, and Generosity: The Neglected Role of Negative Affect in Success Experience
BRENDA K. BRYANT

563 The Effectiveness of Self-directed and Lecture/Discussion Stress Management Approaches and The Locus of Control of Teachers
GAIL H. FRIEDMAN, BARRY E. LEHRER AND JAMES P. STEVENS

581 Latent Partition Analysis of Attributions for Actual Achievement
VICTOR L. WILLSON AND DOUGLAS J. PALMER

591 Prospective Educators' Knowledge of Children's Legal Rights
CAVEN S. MCLOUGHLIN, LYNN SAMETZ AND VICTOR L. STREIB

601 Adaptive Instruction and Classroom Time
MARGARET C. WANG AND HERBERT J. WALBERG

627 Black Children's Knowledge of Standard English
JANE W. TORREY

645 Instructional Strategy and the "Creation" of Classroom Status
GRETA MORINE-DERSHIMER

663 The Effectiveness of Three Methods of Teaching Social Studies Concepts to Fourth-grade Students: An Aptitude-Treatment Interaction Study
C. WARREN MCKINNEY, A. GUY LARKINS, MARY JANE FORD, AND JOHN C. DAVIS III

671 Verbal Interaction of Students and Their Teachers in Junior High Classrooms
BIKKAR S. RANDHAWA

687 Evaluation of a Cooperative Learning Strategy
JOEL M. MOSKOWITZ, JANET H. MALVIN, GARY A. SCHAEFFER, AND ERIC SCHAPS

697 Reviewers for Volume 20

699 Index to Volume 20

THE COMPUTING TEACHER

The Journal of The International Council for Computers in Education

November 1983
Volume 11 Number 4

Features

11 **A 4-Stage Model of Development for Full Implementation of Computers for Instruction in a School System**
Sheila Cory

18 **Teach Your Students to Be Friendly**
M L. Sennett

19 **Making It Real**
Beth E Lazerick

21 **Charting a Summer Course**

22 **Doing Science**
Richard C Adams

26 **Preparing for the Third Wave: Ten New Tools for Computers in Education**
Dorothy K Deringer

29 **A Nod to the Novice #4: Peripherals, Part 2**
Robert Shapura

32 **Beware . . . Read with Caution!**
Jerry Johnson

35 **Teaching Literature with the Help of Microcomputers**
Elaine McNally Jarchow

46 **Calculus with *muMath***
Kathy Heid

54 **Marooned on a Desert Island with a Micro—Ten Books to Take Along**
Sister Helen Jean Nowy, H M

57 **International Computer Problem-Solving Contest Part II—1983 Junior Division Problems**
Donald T Piele

63 **Non-Graphics Logo Applications**
Kathleen Martin and Tim Riordon

68 **Computer Literacy of California High School Seniors**
California Department of Education

Departments

3 Editor's Message
4 Letters to the Editor
7 What's New
22 Computers in Science Education
32 Film Reviews
35 Computers in the Teaching of English
38 Software Reviews
50 Book Reviews
63 The Logo Center
72 Classified Ads
Cover ICCE Organization Members

Index to Advertisers

Barron's	Cover
CDC	56
Computer Directions	25
Data Command	34
Digital Images	37
dilithium Press	17
Educational Associates	41
Enrich	44
Hayden Book Co	31
Martin-Bearden, Inc	9
Oakland Public Schools	42
Radio Shack	20
Reston	45
Rollingwood Publications	71
Scholastic	10
School & Home Courseware Journal	Cover
Sterling Swift	62
Educational Activities	53

Educational Evaluation and Policy Analysis

Volume 5, Number 4 Winter 1983

Nontechnical Questions About Teacher Evaluation Systems in Elementary and Secondary Schools: A Research Agenda
Kenneth A. Strike and Jason Millman 389
Goal Ambiguity and Organizational Decoupling: The Failure of "Rational *Systems*" Program Implementation
William H. Seidman 399
The Impact of the Emergency School Aid Act on Human Relations in Desegregated Elementary Schools
Douglas Longshore 415
Social Evaluation of Curriculum
Michael W. Apple and Landon E. Beyer 425
Evaluability Assessment: A Two-Year Retrospective
Steven M. Jung and Jane G. Schubert 435
Program Evaluation in Early Childhood Special Education: A Meta-evaluation
Samuel L. Odom and Rebecca R. Fewell 445
Qualitative and Quantitative Evaluation: Two Terms in Search of a Meaning
Kathleen Bodisch Lynch 461
Illuminative Evaluation: Assessment of the Transportability of a Management Training Program for Women in Higher Education
Joan P. Shapiro, Cynthia Secor, and Ann Butchart 465
Naturalistic Study of Project Interagency Linkages: The Linkage Case Study
J. Jackson Barnette 473
A Computer-based Meta-analysis of the Effects of Modern Mathematics in Comparison with Traditional Mathematics
Kuriakose Athappilly, Uldis Smidchens, and John W. Kofel 485
Evaluating Vocational Education: A Review of Past Practices and Suggestions for Future Policy
R. Brian Cobb and Hallie Preskill 495

Educational Researcher

Volume 12 Number 9 — November 1983

Articles

Literacy: Trends and Explanations
Jeanne S Chall 3

Educational Vouchers: Regulating Their Efficiency and Effectiveness
Arthur E Wise and Linda Darling Hammond 9

The Use of Questions in Educational Research
J T Dillon 19

Departments

Update 25
Member Activities 26
Classified 26

1984 Annual Meeting Registration Form 11

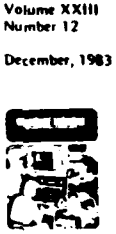
The cover scene of Pirate's Alley reproduced here is by the noted New Orleans artist Joseph A Arrago and is used with his permission

Educational Researcher (ISSN 0013-189X) is published monthly except for combined June/July and August/September issues by the American Educational Research Association 1230 17th St N W Washington D C 20036 Telephone (202) 223-9485 © Copyright 1983 American Educational Research Association Single copies $2.50 + 1.50 postage (1-3 copies + .25 ea additional copies) Annual membership dues of AERA are $35 (students $15) of which $6 (students $3) is in payment of a subscription to the Educational Researcher Nonmember subscription rate individuals one year $15 two years $27 50 Institutions one year $19 two years $34 For subscription information or change of address write to AERA Subscription Department 1230 17th St N W Washington D C 20036 Include address label from recent issue or membership/subscription number Allow six weeks to complete change Send manuscripts directly to the Central Office attention William J Russell All other correspondence should be addressed to the Public Affairs Office Subscription claims for undelivered copies will be filled if received within 6 months (domestic) 9 months (foreign) of the month of publication Second class postage paid at Washington DC and additional mail offices Postmaster Please send form 3579 to AERA 1230 17th St N W Washington D C 20036

educational technology.

Volume XXIII
Number 12

December, 1983



About This Issue

A general issue examining aspects of educational technology

CONTENTS

4 Technology News

6 TECHnically Speaking
A Funny Thing Happened on the Way to the Software Contest
Computer Courseware Evaluations The Missing Publishers

7 Intelligent Computer-Assisted Instruction
An Explanation and Overview
Franklin C Roberts and Oh-choon Park

12 The Academic Challenge of Technological Change for Leadership in Educational Technology
George R McMeen

16 Microcomputer Learning Stations and Student Health and Safety
Planning, Evaluation, and Revision of Physical Arrangements
Andrew R J Yeaman

22 Computer Color Graphics and Monochromatic Display
Are They Compatible?
Patti R Baker

25 Using LOGO to Stimulate Children's Fantasy
Sheila Vaidya

27 A System for the International Distribution of Educational Media
Thomas Singarella

30 Classic Versus Fixed Distractors in General Information Tests
Carlos Perser and Baruch Nevo

33 Educational Technology Columnists
Albert L Goldberg Automation Crossing Cultures
Roger Kaufman Educational Excellence Already at Risk
M D Roblyer Turtles All the Way Down and Other Uses of the Computer
Dean R Spitzer Why Training Has Failed

38 Events Calendar

39 Teaching Systematic Video Production
Paul F Hunsler

43 Educational Technology Professional Literature Reviews

48 Educational Technology Product Reviews

55 Letters to the Editor
Research Sought on Computer-Assisted Instruction
To Improve Education Turn Off the TV at Home
Why Not Identify Software Authors?

57 New Products and Services
61 ERIC Reports
62 Articles and Authors in 1983
64 Learning Can Be Fun

ELECTRONIC EDUCATION

EC FUTURE *features*

- A look into the future—An interview with Captain Grace Hopper, U.S.N., the "Mother of COBOL" tells us where she thinks we're going with computers in education and where we've come from.
- Educational Computing, a new political platform—Several state policies concerning educational technology are viewed and underlying trends of popular campaigns examined—the end result, help for schools.
- "Ingenuity is the Mother of Invention"—Inspired by a paralyzed and speechless woman, John Kramer, an electrical engineer, turned to the computer to provide a means by which she could communicate with the outside world.
- Word processing trains students for jobs—Trying to avoid the dark days of unemployment for their students, leaders of the New York City public school system implemented one of the country's largest word and data processing programs.

Contents

NOVEMBER/DECEMBER 1983 VOLUME 3/NUMBER 3

10 Robots—The roles we'll give them— Experts in the field of robotics tell us how close we are to having real robots in our lives. By Paul Sher and Sharon Lobello

49 Topo: A new tool for teachers— Androbot's Topo, cute as any Star Wars robot, is helping students get a physical perspective of the art of programming. By Barry McConnell

48 'Down Under' robot adds dimension— The Tasman Turtle is a walking, talking—even eye-blinking—robot that adds a touch of reality and dimension to the Logo programming language. By Eric Anderson

50 Valiant Turtle— Soon to be on the market, this little fellow has attracted attention because of its looks and low price. By Tom Stonier

17 Students find poor decisions=bankruptcy— At the University of Washington in Seattle, students are testing their management skills by competing with others in a computer game that recently put some of them out of business. By Jim Rose

23 Micro-Anxiety—how to beat it before you get it— Studies show that teacher educators, while knowledgeable about computers, remain anxious about how they will be affected. The authors suggest some common sense remedies. By Connie Widmer and Janet Parker

28 The National Science Foundation—Gone today, here tomorrow?— A look at the NSF and upcoming programs, reveals that this agency is on its way to giving bigger and better support to schools using computer technology. By Marjorie Blair

DEPARTMENTS

Almost on Line	6
Holiday Wish List	39
Book Reviews	46
Hively's Choice	25
New Products Section	56
Calendar	6
Future Features	8

Journal of Computer-Based Instruction

Volume 10 Numbers 3 and 4 Autumn 1983

TABLE OF CONTENTS

Special Issue on Computer-Based Instruction in Defense

Introduction to Computer-Based Instruction in Defense — 58
Harold F. O'Neil, Jr. and Robert A. Evans

TRANSIT: A Foundation for Military Computer-Based Instruction — 59
Brian Dallman, David Pohlman, Joseph Psotka, Robert Walker, Joseph McLachlan, Wallace Wulfeck, Robert Ahlers, and James Cronholm

U.S. Air Force Human Resources Laboratory

The 6-Top Trainer: Transfer of Training of an Aircrew Procedural Task — 62
David L. Pohlman and Bernell J. Edwards

Development of a Transportable CBI System — 66
Alan P. Marshall

A Graphics Simulation System — Task Emulation, not Equipment Modeling — 70
Brian E. Dallman, William J. Pieper, and J. Jeffrey Richardson

U.S. Army Research Institute

A Comparative Evaluation of Computer-Based and Print-Based Job Performance Aids — 73
John E. Morrison and Bob G. Witmer

Maintenance Training and Performance: A Computer-Based Management Information System — 76
Douglas J. Bobko and John F. Hayes

Video Games: Instructional Potential and Classification — 80
Leon H. Nawrocki and Janet L. Winner

U.S. Navy Personnel Research and Development Center

Remote Site Training Using Microprocessors — 83
Barbara A. McDonald and Alice M. Crawford

An Application of Computerized Adaptive Testing in U.S. Army Recruiting — 87
William A. Sands and Paul A. Gade

Quality CBI Depends on Quality Instructional Design and Quality Implementation — 91
William E. Montague, Wallace H. Wulfeck II, and John A. Ellis

Professional Report: CBI Research and Development Centers — The Ohio State University — 94
Dale Brubeck and Ronald C. Comer

Software and Book Reviews — 97
Nancy McGuire and Mary S. Furlong

ERIC Research Abstracts — 99

The *Journal of Computer-Based Instruction* (ISSN 0098-597X) is published ... by the Association for the Development of Computer-Based Instructional Systems (ADCIS). [illegible]

[illegible]

Published Quarterly
The Association for the Development of Computer-Based Instructional Systems
International Headquarters
Miller Hall 409
Western Washington University
Bellingham, Washington 98225

JOURNAL of READING

VOLUME 27 N° 4 JANUARY 1984

CONTENTS

293 **Criterion referenced reading comprehension tests: New forms with old ghosts**
Kevin Lyons
Like any other tests, criterion referenced comprehension tests need careful validation. The study reported here illustrates this need for caution

299 **Acquiring effective notetaking skills: An alternative to professional notetaking**
Kenneth A. Kiewra
A summary of research on the advantages of students taking their own notes, with suggestions for ways to take good notes

303 **Teaching learners about sources of information for answering comprehension questions**
Taffy E. Raphael
Students of different ages and reading ability need different training in using text implicit/explicit and knowledge-based information. Inservice preparation is described

312 **Gloss: Helping students apply both skills and strategies in reading content texts**
Donald J. Richgels, Ruth Hansen
Gives teachers guidelines for preparing gloss notations focused to help readers develop specific reading skills and strategies

318 **Levels of certitude for educated guessing in strict cloze passages**
Claire Ashby-Davis
About 50% of cloze deletions have only one possible answer (generally a structure word, such as an article), but most other deletions have so many possible fill-ins that student scores are heavily chance. Teach students to do the 50% well.

324 **An instructional model for gifted advanced readers**
Barbara W. Moller
Advanced readers need exposure to challenging writing. Here is a systematic approach to reading instruction with gifted students that increases their reading ability and broadens their interests.

328 **A last chance at literacy: Real world reading comes to a Job Corps camp**
Pat Rigg, Francis E. Kazemek
Programs for functionally illiterate adults need not use the same old approaches that failed before—here's one program that built a literate environment to meet the strengths and needs of Job Corps trainees

334 **Readability and responsibility**
Lois Goodman Dreyer
Readers, not readability formula scores, make books readable. This article suggests how teachers can make materials more comprehensible for students, while perhaps using scores as a guide

340 **Teletext/videotex: The future of the print media**
Susan B. Neuman
How will the introduction of videotex and teletext affect reading? An overview of the media and speculations about the future

346 **Assessing study skills**
Douglas B. Rogers
Study-reading skills may be more successfully developed via investigative procedures than through workbook-type exercises. Guidelines and a checklist for assessing these skills are provided

358 **Principals' views of their role in the high school reading program**
Robert K. Wilhite
Principals' own views of their practices correspond closely to the ideal role of the principal in supporting the secondary school reading program

360 **IRA nominations and elections procedures 1984**

364 **Open to Suggestion**
The PREP system for studying text, Stump-the-Teacher. A word game

368 **ERIC/RCS**
Hilary Taylor Holbrook
Prereading in the content areas

372 **Reviews**
Books for adolescents; Analytical Reading and Reasoning. Human Brain and Human Learning. Books That Made the Difference. Compupoem. Briefly noted

382 **Research**
John T. Guthrie
Academic-vocational schism

Front cover photo by Charles Spink

International Reading Association
800 Barksdale Road
P.O. Box 8139
Newark, Delaware 19714, USA

Lifelong Learning
An Omnibus of Practice and Research

November 1983 (ISSN 0740 0578) Volume 7 Number 3

CONTENTS

Policy Issues in Adult Education
Leonard P. Oliver 4

Fostering Self-Directed Learning in Post-Secondary Education
Rosemary S. Caffarella 7

Personal Growth and the Elderhostel Experience
E. Michael Brady 11

A Typology Applied to Distance Education in British Columbia
Kathleen Scales 14

The Adult Disabled Reader - An Independent Learner?
Linda Thistlethwaite 16

Adult Life Goals and Program Planning
Leon McKenzie 20

Book Reviews 18

President's Forum 25

Techniques 29

President's Forum 25

Cover design courtesy of Carl Sherrell – University of Missouri Kansas City

3

PHI DELTA KAPPAN

January 1984 • Volume 65 • Number 5

CONTENTS

FEATURES

Allan Odden 311 Financing Educational Excellence
Kenneth A. Tye and Barbara Benham Tye 319 Teacher Isolation and School Reform
Gary D Fenstermacher 323 *Nineteen Eighty-Four:* The Latest Educational Reform Proposal
Stanley M. Elam 327 Anti-Democratic Attitudes of High School Seniors in the Orwell Year
David L. Trous 333 Higher Education 2004: A Fable
Stewart E. Fraser 335 Pedagogical Thoughts from Half a Century Ago
Harold G. Shane 337 Two Centuries After: Schooling and Social Change in an Orwellian Futureworld
Russell W. Rumberger 342 The Growing Imbalance Between Education and Work
Wellford W. Wilms 347 Vocational Education and Job Success: The Employer's View
John T. Guthrie and Irwin S. Kirsch 351 The Emergent Perspective on Literacy
Mark F. Goldberg 356 An Update on the National Writing Project
E. Dale Davis 358 Should the Public Schools Teach Values?
Mary Anne Johnston 361 Providing for the Intellectual and Philosophical Development of Prospective Teachers

DEPARTMENTS

306 *THE EDITOR'S PAGE*
An Antidote to Big Brotherism
Anne C. Lewis 307 *WASHINGTON REPORT*
Chris Pipho 309 *STATELINE*
Thomas J. Flygare 363 *DE JURE*
Geraldine Cannon's Long Battle Continues
Michael G. Bruce 364 *IN EUROPE*
Teaching for and About Europe
366 *PROTOTYPES*
The Wisconsin Program for the Gifted Is a Laboratory for Innovation. *Paul Weber and Judy Freund*
367 *RESEARCH*
A National Study of Stress Among University Faculty Members. *Walter H. Gmelch, Nicholas P. Lovrich, and Phyllis K. Wilke.* Special Education Content in Regular Teacher Education Programs. *Joan L. Sattler and Lanny P. Graham.* Views of Teachers and Students Toward Discipline. *Don Thomas and Joan Wilson.* Deans of Teacher Education Struggle to Meet Budgetary Constraints. *M. Lee Manning*
Vernon H. Smith 369 *BOOKS*
372 *NEWSNOTES*
375 *BACKTALK*
Cover: Bill Stimson

9

READING IMPROVEMENT

VOLUME 20 FALL, 1983 NUMBER 3

Auditory Discrimination Training in English of Spanish-Speaking Children — *Virginia Reyes Kramer, Leo M. Schell and R. Michael Rubison* 162

The Differences Between Reading Abilities of Learning/Reading Disordered and Normally Achieving Students — *Tim Roberts and Ellen Anderson* 169

Brain Activity and Learning — *Gerald Kinberg* 176

Reading Skills of Third Graders in Terms of Behavior and Other Variables — *Mary Spand Jones* 181

Six Principles for the Development of Reading Comprehension Instructional Methods and Materials — *James F. Baumann* 187

Early Entrance into Kindergarten Isn't for Everyone — *Gary C. Benedict, Robert J. Gerardi and Paula E. Coolidge* 193

The Use of Aural Cloze as an Instructional Technique in Kindergarten — *Elizabeth A. Hasson* 197

Graduate Programs in Reading: What Do Graduates Say About Them? — *Martha D. Collins Cheek* 200

The Influence of Reading Time and Reading Rate on Literal and Interpretative Comprehension — *Monica J. Lassui* 209

Diagnosis, Remediation and Management of Reading Miscues Among Children of Limited English Proficiency — *Albert J. Shannon* 224

Comparing the Brigance Diagnostic Inventory of Basic Skills and the Wide Range Achievement Test — *Rosalind M. Krawiec and Gerald L. Spadafore* 230

A Successful Developmental Reading Program for College Freshmen — *Samuel A. Perez* 233

Linguistic Awareness and Reading Attitude Among Minority Students — *Beverly Swanson* 236

Teacher Attitudes Toward Material Availability for Teaching Visually Impaired Students — *Bruce Runcie and Karen L. Peterson* 239

READING WORLD

VOLUME 23 – NUMBER 2 DECEMBER, 1983

Special Section: Teacher Education in Reading

99 Extending Language Experiences into Print: A Creative But Systematic Approach to Vocabulary Development ..... *Irene H. Blum* and Nancy E. Taylor

103 Classroom Bibliotherapy: Why and How ..... Maureen McKinney Davison

108 What Reading Teachers Should Know About Dialect ..... J. Richard Gentry

116 Implementing a Practicum in a Required Content Area Reading Course ..... David M. Memory

124 Teaching Reading Study Skills and Course Content to Preservice Teachers ..... Mary W. Olson and Marguerite Gillis

134 A Research View of Clinic Practicums in Reading Education ... Sue F. Rogers, Shirley B. Merlin, Mary M. Brittain, Robert A. Palmatier and Patricia Terrell

147 The Treatment of Commercial Reading Materials in College Reading Methods Textbooks ... Patrick Shannon

158 Reading in Vocational Education: A Review of Recent Literature ..... Mary Dunn Siedow

Article

166 Content Analysis of Two Reading Series for Disabled Readers ..... Cynthia R. Hynd and Sylvia M. Carter

Features

174 The Newspaper in the Classroom: A Unit Approach ..... Paul E. Beals

176 Outlining – Teach the Concept First ..... Donald B. Hofler

178 A Cup of Coffee and a Couple of Doughnuts .... Walter Pauk

180 The Administrator and the Reading Program: A Call for Compassion ..... Sidney J. Rauch

182 Reviews ..... Daniel T. Fishco

Addenda

189 Contributors to this Issue of Reading World

193 Application for CRA's Thesis Award

194 Application for CRA's Dissertation Award

195-198, Advertisements 201

199 CRA Application for Membership

Inside Back Cover – Information for Authors

T·H·E JOURNAL

TECHNOLOGICAL HORIZONS IN EDUCATION

VOL 11, NO 4 JANUARY 1984

Editorial 11
Calendar 12
News 22
New Publications 40
Books 68
Applications 92
Software & Courseware 100
New Products 166
Advertiser Index 182

Teaching Computing Across the Curriculum: A Canadian Viewpoint, *by Christopher K. Knapper and Barry L. Wills, University of Waterloo, Canada.* For institutions of higher education in Canada, the use of computer aided instruction is miniscule. Instead, students of the sciences are taught how to program computers while students of the arts are shown how to use computers within their disciplines. The experiences at one of those universities are described by a pair of educators who were involved in curriculum development 98

The Role of the Computer Centre in Informatics Education, *by Glauco Bertocchi and Mirella Schaerf, Centro di Calcolo Interfacolta, University of Rome, Italy.* High schools in Italy do not, as yet, provide college bound students with any type of computer training. As a result, that nation's largest university has established a computer science center (Centro di Calcolo Interfacolta) and given it two functions: conduct computer science courses, and train teachers of other disciplines in methods of showing students how to use computers in their regular curricula. Five years of history and development of the center are described by two experts 105

A Management-Oriented System Design Method Used to Train Systems Engineers at Japan's Institute of Information Technology, *by Toshio Nishimura, University of Tsukuba, and Yoshihiro Moshuma, Yokohama College of Commerce, Japan.* In the 20 years since the first computers were installed in Japan the roles of systems engineers have changed. As a result, two leading educators developed a new teaching philosophy which has been successfully used for eight years by a specialized institution 108

The Design and Implementation of an Introductory Computer Literacy Course for Teachers and Educational Decision-Makers, *by Chen David and Nachmias Rafi, Tel Aviv University School of Education, Israel.* Fostered by commercial computer companies and other interest groups, the implementation of computers in the Israeli educational system has been both rapid and uncontrolled. Teachers either resent the new technology, or are unrealistically enthusiastic. To quickly bring order out of chaos, two specialists helped develop a split curriculum which enables teachers to follow a more logical path of adoption . . . 113

Teaching Business EDP, *by P. Mertens, University of Erlangen-Nuremburg, West Germany.* In West Germany, electronic data processing is usually taught in management or business administration departments, with little done in purely computer science curricula. With lecture classes running as high as 600 students per instructor, specialized teaching strategies had to be developed to maximize individual learning opportunities in a subject having a broad range 119

Microcomputers and Informatics Education at the University Level, *by Todor Boyanov, University of Sofia Institute of Mathematics, Bulgaria.* In view of the advent of widespread use of microcomputers in this Balkan nation, informatics education for all college students is considered both possible and necessary. As described by a leading specialist, however, this posture has necessitated new methodology and pedagogic strategies of instructing teachers 123

Presenting Computer Literacy for the B.C. Generation at the Smithsonian Institution, *by C. Dianne Martin, George Washington University, and Rachelle S. Heller, University of Maryland.* Though computer literacy has become the key educational issue of the 1980s, little attention has been paid to adults over the age of 25 who received their formal education Before Computers (B.C.). As a beginning step to satisfy that need, and at the request of the Smithsonian Institution, the authors and two associates developed and presented highly popular one-day seminars. Their article contains a description 125

Functional Distance and the Attitudes of Educators Toward Computers, *by Dr Cathleen H. Norris and Dr Barry Lumsden, North Texas State University.* Two nationally recognized researchers draw a fascinating comparison between studies on the acceptance of differing nationalities, and cyberphobia, or fear of computers, by classroom teachers. Their correlations indicate that distance engenders admiration 129

Cable Television: An Aid to Education, *by Joseph H. Proudy, Philadelphia Board of Education, Pennsylvania.* A trustee of one of America's largest unified school districts describes the potential benefits to both students and teachers as cable television, with instructional channels, comes to his city 136

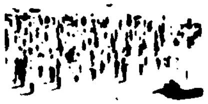
CAD Training in Industry and Education, *by Thomas J. Lasser, T&W Systems, Inc., Huntington Beach, Calif.* Before an assembly of a West Coast professional industrial association, this business executive described the need for increased training in computer-aided design (CAD), and a symbiotic relationship between education and industry which could increase the supply of trained CAD operators 138

A Futurist Looks at EdTech, or Wheel Reinventing Reconsidered, *by Dr Pauline Masterton, Florida Department of Education.* Using a future is here now approach, a state authority provides a unique description of the phenomenon taking place in the Sunshine State 143

ON OUR COVER

• JANUARY, 1984





56 12 66

Training & Development Journal

Published by the American Society for Training and Development
ISSN [illegible]
SEPTEMBER 1983 VOLUME [illegible] NUMBER [illegible]

SKILLS TRAINING
12 Skills Training Comes of Age
By Herman Birnbaum
The shift of the American economic base to professional technical work poses a training challenge

14 A Formula for Technical Training: Time-Tested Instructional Methods
By William E. Pusk and James F. Turner
How Scott Paper developed technicians for major new equipment

20 Instructional Systems—Without the Bang!
By Jimmy D. Vandergrift
Three Mile Island and its repercussions in the utilities industry dictated advanced instructional systems development: how to make training appropriate, accountable and cost effective

24 Building on the Known: From Relay Technology Competence to Microcomputer Competence with the Help of a Symbolic Language
By W. J. Mallory
The rapid fire introduction of microcomputers will continue: training can keep up with the demand for computer skills through symbolic substitutes

MANAGEMENT DEVELOPMENT
36 Making Managers of Technical Gurus
By Peter K. Krembs
Understanding the management route and rewarding a balance of technical and managerial competence can assist the difficult value/motivation shift from technical professional to technical manager

BUDGETS
42 How Training Departments Win Budget Battles
By Chip R. Bell
As organizations look to training departments for answers to skill shortage problems, trainers can secure resources with alignment assessment and marketing with the "right stuff"

50 Helping Managers and Employees Cope with Work Force Cutbacks
By Gene L. Morton
A well orchestrated cutback based on extensive preparation, emphasis on performance and sensitivity can minimize unexpected costs during and after the process

LD AND TRAINING
56 Learning Disabled Trainees: Finding and Helping the "Hidden Handicapped"
By Elizabeth Lean
A surprisingly large number of intelligent adults have learning disabilities, but what exactly is a learning disability, and how can training designs respond to the needs of this population?

QUALITY OF WORK LIFE
66 Can Your Organization Support Quality Circles? A Practical Model
By James F. Leonard
Fad or feasible? Only thorough assessment of the individual organization can determine readiness for a QC program, and only readiness can support a successful one

73 Dimensions for Excellence in Quality of Work Life Efforts
By Susan B. Phillips
Quality of work life and employee involvement efforts require maintenance and must be strengthened and assessed continually if they are to be of lasting value

ROLE CLARITY
74 "What is it you do, anyway?"
By Karl Rogers
Targeted involvement is a powerful strategy for forging role clarity and purpose out of the vague role perceptions too many people have of trainers

STYLE
76 Style Feedback for Trainers: An Objective Observer System
By Christopher Roland
A foundation for creating the positive interactions critical to success can be achieved through objective style feedback

CAREER DEVELOPMENT
82 Do Formal Career Development Programs Really Increase Employee Participation?
By Roser Wonk, Doris Willson and Georgia Halstead
Formal career development programs in seven organizations were studied to evaluate the relationship between program offerings and employee participation

Departments

Issues	6
FYI File	8
New Training Tools	73
Bookshelf	86
Classified	94
Advertising Index	96

Credits: Cover illustration and p. 12, Ronald [illegible] images illustrations; 37, [illegible] photo [illegible] Studio

VOC ED

November/December 1983 Vol. 58, No. 8

Features

32	Keeping the Profession Current	Francis T. Tuttle and Juanita W. Rice
35	AVA Moves with the Times	Gordon F. Swanson
38	Preparing the Way for Change	Joe W. Lemley
40	Educators as Activists	Steven Sullivan
42	Teacher Education: A Continuing Process	
	The Theory	Donald Maley
	The Practice	Thomas J. Walker
46	Staff Development on a Shoestring	Carroll L. Bennett and Robert Mitchell
48	Placing Teachers in Industry	Janice Van Dyke
50	Industry Takes the Initiative	Alan Engbring
53	Convention Highlights and Trade Show Guide	
54	Anaheim 1983	
60	Trade Show Exhibitors	
78	Exhibit Highlights	

1983-84 VocEd Themes

August—Annual Teaching Issue
September—Vocational Education in Community Colleges
October—Retooling the Work Force
November/December—*Keeping the Profession Current*
January/February—Policy, Programs and Funding
March—Math, Science and Technology: Bridging the Gap
April—The Application of Technology to Teaching
May—The Implications of Societal Change

Departments

6	Letters
10	Executive Directions
13	Safety First
17	It Works!
20	Forum
26	Research in Action
31	About This Issue
94	Books
108	Advertisers
109	Vocational Viewpoint

Coming in January
When Congress passed the Vocational Education Act in 1963, it sent the clear message that quality vocational education was a vital item on the nation's educational agenda. Now, as we move toward reauthorization of the Act, *VocEd*'s January issue looks at the nature of the federal presence in today's vocational classroom. How do federal programs and regulations affect teachers, schools, school districts and policy makers? How does the Job Training Partnership Act really work and what are its prospects for success? How will the new priorities, as expressed in the recent flurry of educational studies, affect vocational education?

About the Cover
Nancy Macture's watercolor is based on a photograph taken by University of Minnesota graduate student Francis L. Bartholet at a teacher updating workshop conducted by the university at an area vocational technical institute. The workshops are being held throughout the state to train trade and industrial teachers in TERAC computer aided drafting.

Insiders
This issue, *VocEd* Insiders are bound into the magazine for members of the AVA Business, Special Needs, and Trade and Industrial divisions.

The NETWORK Vanguard
Selected Current Journal Contents

No. 4 May 1984

The NETWORK Vanguard contains the tables of contents from journals selected for their relevance to adult basic skills education programs and research. The Military Educators Resource NETWORK provides this service four times a year to help Army educational personnel keep informed of current developments in their field.

The tables of contents appear in alphabetical order according to journal name. A list of journals included, along with ordering information can be found on page 2. In addition to the address, frequency of publication and subscription price are provided. In some cases, a single copy (S.C.) price is given. "UMI" indicates that copies of articles can be obtained from University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106. Reprints of articles sometimes are available from the author or the journal itself. If your installation library does not carry a particular journal, your librarian may be able to obtain a copy through the interlibrary loan system.

We welcome suggestions on specific journals or types of journals to include in future issues. If you have a suggestion or an information request, call or write: Military Educators Resource NETWORK, 1555 Wilson Boulevard, Suite 508, Rosslyn, VA 22209, (703) 522-0667 or use AUTOVON 851-3550 and ask for "off-net government official call to 522-0667."

The Military Educators Resource *NETWORK is an information center* that is being pilot tested to enhance military educational programs by linking military educators throughout the world. The NETWORK's services and products help these educators keep informed of current research and significant developments in education. A *computerized database* contains the latest information in adult basic skills education programs and research, descriptions of various programs operated at Army installations, and directory information to be used for referrals. Among the free services and products offered are an inquiry response *service, a points of contact* referral service, periodic fact sheets, and a quarterly newsletter.

LIST OF JOURNALS

Adult Education Quarterly

Circulation and Advertising Manager
American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 230
Washington, DC 20036

4/yr. $21.00 nonmember; S.C. $5.00

AEDS Journal

Association for Educational Data Systems
1201 Sixteenth Street, N.W.
Washington, DC 20036

4/yr. $32.00 nonmember. UMI

AEDS Monitor

Association for Educational Data Systems
1201 Sixteenth Street, N.W.
Washington, DC 20036

6/yr. $28.00. UMI

Basic Education

Council for Basic Education
725 Fifteenth Street, N.W.
Washington, DC 20036

8/yr. $25.00; S.C. $2.75. UMI

The Computing Teacher

International Council for Computers in Education
1737 Agate Street
University of Oregon
Eugene, OR 97403

9/yr. $16.50

Educational Evaluation and Policy Analysis

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

4/yr. $16.00 nonmember individual; $21.00 institution. S.C. $5.50 + postage and handling

Educational Researcher

AERA Subscriptions
1230 Seventeenth Street, N.W.
Washington, DC 20036

10/yr. $15.00 nonmember individual; $19.00 institution; S.C. $2.50 + 1.50 postage

Journal of Reading

International Reading Association
P.O. Box 8139
Newark, DE 19711

8/yr. $25.00; S.C. $3.25. UMI

Lifelong Learning: An Omnibus of Practice and Research

American Association for Adult and Continuing Education
1201 Sixteenth Street, N.W., Suite 230
Washington, DC 20036

8/yr. $25.00; S.C. $2.75. UMI

Phi Delta Kappan

Phi Delta Kappa, Inc.
Eighth and Union
P.O. Box 789
Bloomington, IN 47402

10/yr. $20.00; S.C. $2.50. UMI

TESOL Quarterly: A Journal for Teachers of English To Speakers of Other Languages

James E. Alatis
School of Language and Linguistics
Georgetown University
Washington, DC 20057

4/yr. $30.00 membership includes Journal subscription

T.H.E. Journal (Technological Horizons in Education)

Synergy, Inc.
7 Spruce Street
P.O. Box 992
Acton, MA 01720

8/yr. Free on limited basis; Other subscriptions $15.00; S.C. $2.50

VocEd: Journal of the American Vocational Association

American Vocational Association
2020 North Fourteenth Street
Arlington, VA 22201

8/yr. $20.00; S.C. $2.50. UMI

Adult Education Quarterly

A Journal of Research and Theory

Volume 34 Number 3 Spring 1984

In this issue:

ARTICLES

- Adult Education in Prison Settings Symbol or Substance
  Carol Goldin
  Jim Thomas 123
- Analyzing the Effectiveness of Continuing Professional Education An Exploratory Study
  Ronald M Cervero
  Suzzane Rottet 135
- Disclosure of Cognitive Style Information Effects on Achievement of Adult Learners
  Mary Jo Fourier 147
- Identifying Deterrents to Participation in Continuing Education
  Craig S Scanlan
  Gordon G Darkenwald 155

FORUM

- The Empty Ideal A Critique of *Continuing Learning in the Professions* by Cyril O Houle
  Bruce Woll 167

ASSOCIATION FOR EDUCATIONAL DATA SYSTEMS

VOLUME 17 ■ Spring 1984 ■ NUMBER 3

Computers and Computer Literacy in Contemporary Psychological, Socio-Economic and Educational Context
Bikkar S. Randhawa and Dennis Hunt 1

Three Perspectives for Computer Applications in Education
William P. Goddard and Lionel Pereira-Mendoza 14

Computer Utilization in Education: Problems and Prerequisites
Joe E. Shively 24

Social Patterns and Computer Use Among Preschool Children
Kathleen M. Swigger and Boyd Keith Swigger 35

Why Computer-based Education is Making Slow Progress: An Analysis of Costs and Other Impediments
Jesse H. Poore and John W. Hamblen 42

Syntactical Errors in Programs Written by Beginning Students in Business Programming
Joan K. Pierson and Jeretta A. Horn 53

Book Review
Lora P. Conrad 61

Contents of this journal are available in Microform from Xerox University Microfilms, 300 N. Zeeb Road, Ann Arbor, MI 48106

AEDS Monitor

Contents

10 New Issues of Computer Privacy in the Eighties
Tom E. Hinton

15 Electronic Funds Transfers
James Howard

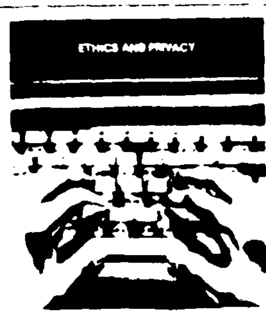
18 Personal Computers
George Trabow

19 Government Data Banks
Norma Rollins

23 Copyright and Computer Software: A Question of Ethics
Carol A. Risher

25 An Instance of Computer Abuse
James L. Schaefer

Corrections
The volume number of the Jan./Feb. 1984 issue should have appeared as Volume 22, No. 3, 4. Pages 26 and 27 were printed in reverse order.



Departments

Editorial Bits
AEDS Bulletin Board
Courseware Review
What's New Etc.

basic education — February 1984

Dennis Gray, Editor

Apples, Oranges, And Kumquats: Comparing States On Education Data 3
Academic Preparation For Work — The New Needs Of The Marketplace 6
High Technology: Is It Taking Education Down A Garden Path? 8
Appraising And Examining The Federal Vocational Education Law 11
A Look At The Sterile Schools And Happy Children Of Communist China 15
CBE Publications 17
Order Form 18
New Publications 19

COMING IN MARCH

—James Howard reviews two books about American education: James Goodlad's *A Place Called School: Promise for the Future* and Ernest Boyer's *High School: A Report on Secondary Education in America*.

All in *Basic Education*
CBE's informative monthly bulletin

Basic Education is published monthly, except in July and August, by the Council for Basic Education, 725 Fifteenth Street, N.W., Washington, D.C. 20005.

Original material is not copyrighted and may be reprinted without permission. CBE and the author (the editor, unless otherwise indicated) appreciate credit.

Subscription: $18.00 a year. Group subscription is available at a discount of 25 percent when five or more copies are mailed to the same address. Single copies: $1.80. See page 18 for information about CBE membership and orders.

CBE OFFICERS AND DIRECTORS: Thomas W. Payzant, *President*; Michael J. Spector, *Vice President*; Mrs. Caryl M. Kline, *Treasurer*; Jacques Barzun; Mrs. Talcott Bates; Everett H. Bellows; Mrs. Barry Bingham; Carl Dolce; Henry H. Drewry; Clifton Fadiman; Willie W. Herenton; Mrs. Edward B. McMenamin; Thomas C. Mendenhall; Leland Prussia; Justice Potter Stewart; A. Graham Down, *Executive Director*.

basic education — March 1984

Dennis Gray, Editor

School Discipline And Achievement: An Interview With Amitai Etzioni 3
A Place Called School: A Thoughtful Discourse On Perceptions And Reality 8
High School: Telling It Like It Is And The Way It Ought To Be 11
Report Says Textbooks Show Bias, Lack Of Balance On Future Trends 14
The Basics Reviewed As Two States Look At Trends In Competency Testing 16
CBE Publications 17
Order Form 18
New Publications 19

COMING IN APRIL

—A report on how school districts select their principals
—Also, an overview of moves in the states to set new standards for preparing and certifying teachers

All in *Basic Education*
CBE's informative monthly bulletin

Basic Education is published monthly, except in July and August, by the Council for Basic Education, 725 Fifteenth Street, N.W., Washington, D.C. 20005.

Original material is not copyrighted and may be reprinted without permission. CBE and the author (the editor, unless otherwise indicated) appreciate credit.

Subscription: $18.00 a year. Group subscription is available at a discount of 25 percent when five or more copies are mailed to the same address. Single copies: $1.80. See page 18 for information about CBE membership and orders.

CBE OFFICERS AND DIRECTORS: Thomas W. Payzant, *President*; Michael J. Spector, *Vice President*; Mrs. Caryl M. Kline, *Treasurer*; Jacques Barzun; Mrs. Talcott Bates; Everett H. Bellows; Mrs. Barry Bingham; Carl Dolce; Henry H. Drewry; Clifton Fadiman; Willie W. Herenton; Mrs. Edward B. McMenamin; Thomas C. Mendenhall; Leland Prussia; Justice Potter Stewart; A. Graham Down, *Executive Director*.

THE COMPUTING TEACHER

The Journal of The International Council for Computers in Education

March 1984
Volume 11 Number 7

Features

10 Use Logo Graphics in Your BASIC Program
Hank Voderberg

12 Computer Metaphors: Approaches to Computer Literacy for Educators

14 Computer Demonstrations for Your Benefit
Richard Alan Smith

23 Computers and Mathematics—A Call for Your Ideas!
Jerry Johnson and Anthony Jongejan

26 A Guide to Producing Educational Software
David Savitsky

28 The Rat and the Cheese
Tom Swanson

30 Charting a Summer Course

38 Computer Competencies for School Administrators
Ted Mims and Jim Poirot

46 Public Domain Software Listings

64 Helping Students with Recursion: Teaching Strategies Part III: Teaching Students about Embedded Recursion
Tim Riordon

Departments

3 Editor's Message
5 Washington Update
6 Letters to the Editor
8 What's New
18 Software Reviews
26 Computers in the Teaching of English
40 Computers in Science Ed.
43 The Logo Center
60 Book Reviews
71 Classified Ads
Cover ICCE Organization Members

Index to Advertisers

COMPress	61
Computer Skill Builders	63
Data Command	71
Digital Images	18
ECOO	9
Educational Associates	11
Ideatech	18
IRM	25
ICCE Publications	70
JL Educational and Computer Services	11
Journal of Computers in Math and Science Teaching	11
Lexington Books	19
Macmillan Pub Co	17
Modern Education Corp	59
Radio Shack	15
Reston	13
Scholastic	Cover
Teachers College Press	12
Theory Into Practice	Cover
University of Portland	19
User Friendly	27
West Pub Co	29

Next Month—

An in-depth look at computers and equity

THE COMPUTING TEACHER

The Journal of The International Council for Computers in Education

April 1984
Volume 11 Number 8

Features

10 Inequities in Opportunities for Computer Literacy
Ronald E Anderson, Wayne W Welch and Linda J Harris

13 Equity in Computer Education
Senator Frank R Lautenberg

14 Computer Education for ALL Students
Anthony J Alvarado

16 Sex Equity Increasing Girls' Use of Computers
Marlaine E Lockheed and Steven B Frakt

19 Computer Equity and Computer Educators (You)
John Lipkin

22 Enrollment Differences in Computer Camps and Summer Classes
Irene T Miura and Robert D Hess

24 Access to Computers
Glenn Fisher

28 Practical Solutions to Overcoming Equity in Computer Use
Jane G Schubert and Thomas Bakke

31 The Computer: Male, Female or Androgynous?
Jo Sharbat Sanders

42 EQUALS in Computer Technology
Kay Gilliland

45 Lowering the Barriers to Computer Use
William J Harvey and Dean W Ginther

48 Computer Access for the Visually Impaired
Bettye Krolick

51 Identifying Equitable Software
Raymond Rose

52 Computers and Equity: A Pilot Program
Ray E Wong, P Bruce Uhrmacher and Dianne P Siegfried

56 Playing To Win in East Harlem
Antonia Stone

57 Females and Computers? Absolutely!
Maryann R Marrapodi

59 Graphic Design for Computer Graphics: Implications for Art and Design Educators
Aaron Marcus

62 Achieving Equity
Carol Edwards

65 Access to Technology: The Equity Paradox
Patricia Sturdivant

68 Local School Response to Computer Equity
Donald Del Seni

69 Additional Computer Equity Resources
Rosalind Philips

Departments

3 Editor's Message
6 Washington Update
7 What's New
35 *Reviews*
59 Computers in the Arts and Humanities
70 Classified Ads
72 ICCE Organization Members

Index to Coming Attractions

The Computer Economy of the Human Mind Eugene OR Aug 13 p 47
Computer Literacy for Educators Amherst MA June 23 July 7 p 10
Discovery 84 Technology for Disabled Persons Chicago IL Oct 13 p 44
Educational Equity & Excellence Programs That Work Kalispell MT June 20 22 p 27
Impact 84 Victoria BC May 24 27 p 21
Micro Expo 84 Paris France May 22 26 p 44
Microcomputers & High Tech in Vocational Educ Madison WI Aug 14 16 p 44
Personal Computers for the Handicapped Alberta Canada May 15 p 16
Sixth Annual Computer Conference Cambridge MA May 5 p 47

Extra Equity Issues

Additional copies of this Equity Issue (Vol 11 #8) are available for $3 (U.S. each).

Write Equity Issue, ICCE, University of Oregon, 1787 Agate St, Eugene, OR 97403-1923. (Save $2.50 processing charge by including payment with your order.)

Educational Evaluation and Policy Analysis

Volume 6, Number 1 — Spring 1984

Policy Analysis at the Local Level: A Framework for Expanded Investigation
Joseph A. Murphy and Philip Hallinger 5

Legal and Professional Standards in Program Evaluation
Paul W. Thurston, John C. Ory, Paul W. Mayberry, and Larry A. Braskamp 15

The History and Politics of an Evaluation: The Colorado Learning Disabilities Study
Alan Davis and Mary Lee Smith 27

Cost-Effectiveness of Two Math Programs as Moderated by Pupil SES
Bill Quinn, Adrian Van Mondfrans, and Blaine R. Worthen 39

Effectiveness of Strategies to Encourage an Innovative Education Program
Alma E. Lantz 53

Designing Writing Assessments: Balancing Fairness, Utility, and Cost
Edys S. Quellmalz 63

High School Size, Participation in Activities, and Young Adult Social Participation: Some Enduring Effects of Schooling
Paul Lindsay 73

School Award Programs: Evaluation as a Component in Incentive Systems
Edward A. Wynne 85

The Prospects of an Applied Ethnography for Education: A Sociology of Knowledge Interpretation
George W. Noblit 95

Educational Researcher

Volume 13, Number 3 — A Publication of the American Educational Research Association — March 1984

Language and form of manuscripts for the *ER* must conform to the style of the Publications Manual of the American Psychological Association (3rd ed., 1983), available from the American Psychological Association, 1200 Seventeenth Street, N.W., Washington, D.C. 20036.

Articles

Placing Children in Special Education: Findings of the National Academy of Sciences Panel

Assessment in Context: Appraising *Student Performance in Relation to Instructional Quality*
Samuel Messick 3

Issues in the Instruction of Mildly Mentally Retarded Children
Jeremy D. Finn and Lauren B. Resnick 9

Placing Children in Special Education: Some Comments
Richard E. Snow 12

Beyond IQ Test Bias: The National Academy Panel's Analysis of *Minority EMR* Overrepresentation
Daniel J. Reschley 15

Quality of School Life: Foundations for Improvement
Frank C. Pratzner 20

Departments

Letters 26
Member Activities 28
Update 29
Classified 30

JOURNAL of READING
VOLUME 27 N° 7 APRIL 1984

CONTENTS

581 Commentary
Mark Malone, Lynn Dempster, Daniel T. Rutland, Julie Baden, Dorothy Gabel, John J. Carney
An exchange of views on the place of reading in science instruction

586 Test Review
Leo M. Schell
Comprehensive Tests of Basic Skills (CTBS, Form U, Levels A, J)

590 Developing reading strategies for the gifted: A research-based approach
Gary W. Bates
By summarizing the research findings into a profile of the gifted reader, the author provides teachers with a guide for evaluating the appropriateness of material for use with gifted students

594 Organizing and scheduling the secondary reading program
Elizabeth A. Webber
Flexibility of scheduling promotes maximum effectiveness in a secondary reading program. The author suggests five scheduling formats to meet the diverse needs of secondary students and content area teachers

598 Using reading as a thinking process to solve math story problems
Elaine Campbell Kresse
In solving math story problems, choosing the correct operation depends on verbal evidence that can be identified and directly taught. The author presents a reading strategy to help understand these math problems

602 PGR: Problem-guided reading for college math-related courses
Linda L. Johnson
PGR is a textbook study system designed for math or applied math courses. Students focus on solving problems, consulting the textbook when necessary, and reading for well considered purposes

609 Adult basic education: Six years after Kavale and Lindsey's literature review
Jimmy D. Lindsey, Leasa T. Jarman
A look at the literature on Adult Basic Education since 1977 should encourage educators and researchers

614 "I wanted to be a Tencra to help penp to l ": Writing for adult beginning learners
Francis E. Kazemek
After discussing the rationale for integrating writing in beginning literacy instruction, the author describes several successful activities, giving samples from his students' writing. Includes recommendations for adult literacy educators

620 Teaching study skills in the intermediate grades—we can do more
Frank C. Sabatino
When middle school teachers put greater emphasis on study skills, then students profit from greater confidence and understanding. Some sample skills are outlined

624 Biology teachers' preferences in textbook characteristics
Don Lee Spurgeon, Bill D. Wright
In a survey, biology teachers reveal their likes and dislikes regarding textbooks. Interesting implications for teachers and publishers

629 Television: Friend, not foe of the teacher
Barbara Shoup
Teachers can use television to promote and enhance reading if they choose programming wisely

632 Stretch your budgets: Have schools and public libraries cooperate
Patrick P. McCabe
Our schools are overlooking a valuable resource—the community library. The author describes results of his survey of librarians and suggests ways to develop and strengthen the school and community library relationship

636 The compositional approach to reading in practice and theory
Roy Mosley
This theory explains why writing and reading contribute to growth in each other—both are compositional in nature

644 Some "whole brain" activities for the community college reading class
Linda Duvaas Boggs
Activities to promote the integration of the right and left hemispheres of the brain may promote a more positive attitude and better understanding in remedial readers at the college level

650 Open to Suggestion
Word jigsaw puzzles. First aid for a teenage nonreader. Make believe publishing company

656 ERIC/RCS
Fran Lehr
Promoting vocabulary development

659 Reviews
Books for adolescents. New from IRA. Reading Development and Cohesion. Project Earth. Blockbusters. Hot Times. Feathers, Fins, and Things. Say Cheese. Way Down Under. All in the Family. Teacher's Guide. Two Way Tutoring. How to Improve Reading Skills. Reading, Thinking, Writing. Using Sports for Reading and Writing Activities. Middle and High School Years. Sparrow Bookshelf Libraries. Essays into Literacy. Briefly noted

670 Research
John T. Guthrie
Policy studies

Front cover photo by Kathryn Le Grand Weiner

Lifelong Learning

An Omnibus of Practice and Research

American Association for Adult and Continuing Education

January 1984 (ISSN 0740-0578) Volume 7 Number 4

CONTENTS

"Full Service Concept" Links Adult Education to Business, Industry and Social Services
Joan E. Garbarino 4

Cultural Diversity and Multicultural Education
Young Pai

N. F. S. Grundtvig's Folk High School Idea and the Challenge of Our Times
Jindra Kulich 10

Remediation in Mathematics
New Approaches for Older Ideas
Claire M. Newman and Elaine B. Chapline 14

Malcolm Knowles and Carl Rogers: A Comparison of Andragogy and Student-Centered Education
Dennis L. Boyer

Locus of Responsibility as an Aid to Training
Kenneth J. Mauran

Book Reviews 26

Techniques 29

Cover design courtesy of Carl Sherriff, University of Missouri, Kansas City

Lifelong Learning: An Omnibus of Practice and Research is published by the American Association for Adult and Continuing Education. The annual subscription price is $25 per volume (4 issues). $30 per volume in the United States. $35 per volume in Canada and foreign subscriptions. Individual copies of Lifelong Learning are $7.50 each. Publication of Lifelong Learning is supported in part by the University of Missouri, Kansas City.

Lifelong Learning

An Omnibus of Practice and Research

American Association for Adult and Continuing Education

February 1984 (ISSN 0740-0578) Volume 7 Number 5

CONTENTS

Can the Hard-To-Reach Adults Become Literate?
Gerda G. Fitzgerald 4

Applying the Principles of Adult Learning to Parent Education Programs
Elizabeth Lauderdale 8

What's a Program For?—The Question of Impacts
William M. Rivera 10

Educational Objectives of Traditional vs Nontraditional Alumni at One Institution
Dennis J. Barone 14

Developing Written Learning Materials
A Proactive Approach
Ralph C. Bienvenu 18

Characteristics of Adult Beginning Readers Who Persisted in a Volunteer Tutoring Program
Betty S. Heathington, Judith A. Boser and Thomas Valtez 20

President's Forum 24

Book Reviews 25

Techniques 29

Cover design courtesy of Carl Sherriff, University of Missouri, Kansas City

March 1984 • Volume 65 • Number 7

CONTENTS

FEATURES

Elliot W. Eisner 447 Can Educational Research Inform Educational Practice?

Emest L. Boyer 453 Can Educational Research Inform Educational Practice? Yes!

Mark G. Yudof 456 Educational Policy Research and the New Consensus of the 1980s

Arthur R. Jensen 460 Political Ideologies and Educational Research

John J. Cogan 463 Should the U.S. Mimic Japanese Education? Let's Look Before We Leap

Delbert H. Ewing 469 Soviet Education and the Development of Communist Ethics

Robert F. Arnove 473 Educational Policy in China and India: The Problems of Overcoming the Work-Study Dichotomy

Philip G. Altbach 479 The Management of Decline: International Perspectives on the Academic Profession

Cornelius Lee Grove 481 U.S. Schooling Through Chinese Eyes

Manuel J. Justiz 483 It's Time to Make Every Minute Count

Barry K. Beyer 486 Improving Thinking Skills — Defining the Problem

Lisa M. Kennedy and Margaret Terry Orr 491 Sex Education: An Overview of Current Programs, Policies, and Research

Suzanne Gold 497 Sixty Years of Programming for the Gifted in Cleveland

DEPARTMENTS

442 THE EDITOR'S PAGE
Ask Research and Hope It Sings

Anne C. Lewis 443 WASHINGTON REPORT

Chris Pipho 445 STATELINE

Thomas J. Flygare 500 DE JURE
Faculty Salaries, The Battle Between Arkansas and Missouri Boards of Trustees, and Higher Education

501 PROTOTYPES
The Alabama Study Reaches a New Audience, by Phillip W. Jeffrey, Joseph M. Swanson, and Howard F. Mehan

Gerald W. Bracey 502 RESEARCH

Vernon H. Smith 505 BOOKS

507 NEWSNOTES

509 BACKTALK
Cover Illustration: Jim Hull

April 1984 • Volume 65 • Number 8

CONTENTS

FEATURES

Chester E. Finn, Jr. 518 Toward Strategic Independence: Nine Commandments for Enhancing School Effectiveness

Ernest L. Boyer 525 Reflections on the Great Debate of '83

Terrel H. Bell 531 American Education at a Crossroads

Joel Spring 534 Education and the Sony War

Gov. James B. Hunt, Jr. 538 Education for Economic Growth: A Critical Investment

Evans Clinchy 542 Yes, but What About Irving Engleman?

Michael Barlow 546 The Tragedy of Teacherly Merit Pay

Harry A. Dow 548 Teaching: A Performing Art

Richard Wasserstrom and Paul Kleine 553 Teacher Moonlighting: An Unstudied Phenomenon

Barry K. Beyer 556 Improving Thinking Skills — Practical Approaches

Harry M. Johnson II 561 The Practitioners' Workshop

Marion Boyd, Allan A. Glatthorn, and James M. Lorton 563 Focused Graduate Studies: A New Pattern of School/University Cooperation

DEPARTMENTS

514 THE EDITOR'S PAGE
Act II

Anne C. Lewis 515 WASHINGTON REPORT

Chris Pipho 516 STATELINE

Karen Klein 565 PRACTICAL APPLICATIONS OF RESEARCH
Minimum Competency Testing: Shaping and Reflecting Curricula

Thomas J. Flygare 568 DE JURE
Photocopying and Videotaping for Educational Purposes: The Doctrine of Fair Use

Shirley McDaniel 569 IN CANADA
Looking into the Future

570 PROTOTYPES
Improving Community Relations Through Business and University Cooperation, by Roger N. Grabowski

Vernon H. Smith 571 BOOKS

575 NEWSNOTES

578 BACKTALK
Cover: Joel Pett

TESOL QUARTERLY Volume 18, Number 1 □ March 1984

CONTENTS

ARTICLES

The Secret Life of Methods 7
Jack C. Richards

The Influence of Speech Variety on Teachers' Evaluation of Students with Comparable Academic Ability 25
Cecilia E. Ford

Using Lecture Transcripts in EAP Lecture Comprehension Courses 41
Roni S. Lebauer

Patterns in the Use of the Present Tense Third Person Singular -s by University-Level ESL Speakers 55
Roberta G. Abraham

Changing Fossilized Pronunciation 71
William Acton

Holistic Evaluation of ESL Compositions: Can It Be Validated Objectively? 87
Laco Justus Homburg

Career Aspects of Graduate Training in ESL 109
Richard R. Day

REVIEWS

Second Language Acquisition Studies 129
Kathleen M. Bailey, Michael H. Long, and Sabrina Peck (Eds.)
Reviewed by Craig Chaudron

Longman Dictionary of American English: A Dictionary for Learners of English 133
Reviewed by Gerard M. Dalgish

BRIEF REPORTS AND SUMMARIES 141

THE FORUM 149

INFORMATION FOR CONTRIBUTORS 169
Editorial Policy
General Information for Authors

Publications Received 171

Publications Available from the TESOL Central Office 173

TESOL Membership Application 192

T·H·E
TECHNOLOGICAL HORIZONS IN EDUCATION
JOURNAL

VOL 11 NO 6 MARCH 1984

Editorial	10	Books	52
Product Profile	12	Applications	84
Background	14	Software & Courseware	113
Calendar	16	New Products	125
News	28	Advertiser Index	136
New Publications	42		

Innovation and the Education Process, *by John A Young, President Hewlett Packard Corporation* In cooperation with Stanford University a large corporation has developed a nation-wide program of Tutored Videotape Instruction for its personnel The firm's chief executive describes the value of having employees continue their education while at work 2

***Computer Based Training* A Major Growth Opportunity**, *by Dr Rex Spiller and Dr Joseph Robertson, Rockwell International Corporation* A respected industry training specialist and an expert in telecommunications describe how large American corporations are changing over to computer based education presently 78

Educational Productivity the Teacher and Technology, *by Arthur A Melmed, Director Educational Technology & Science Staff Office of Educational Research and Improvement U S Department of Education* Expressing his individual viewpoint one of the nation's educational leaders uses data available at the highest level to predict that American schools must increase computer hardware expenditures to $5bn million annually by next year and describes shortcomings in courseware 78

THE JOURNAL 5

West Virginia Schools to Secure a State-wide Microcomputer Network, *by John F Cook, Asst Bureau Chief, Administration & Planning Dept Bureau of Vocational, Technical & Adult Education, State Department of Education, West Virginia* In a decisive move West Virginia has signed a multimillion dollar contract to provide micro computers printers mass storage units and networking equipment to link every vocational training center and high school in the state This official provides an inside look at the agreement and how it was developed 89

University Interns Begin a Microcomputer School, *by Asst Prof Donald L Harbert, Southern Illinois University Carbondale* What began as a unique baccalaureate vocational teacher preparation program for military personnel at the U S Naval Guided Missile School in Virginia has now expanded to 17 military installations nationwide The program's instigator tells how it serves a stable enrollment of 850 servicemen and women 90

CAI System Costs Present and Future, *by Israel Pressman and Bruce Rosenblaum, Baruch College, The City University of New York* A pair of investigators reveal the results of their research into the realistic costs of providing computer aided instruction at institutions of higher learning 94

Robotics — The New Silent Majority
FIRST OF A SPECIAL THREE PART SERIES

Robots An Impact on Education, *by Dr Tarvin Rhett and Dr Marlon Maness, Department of Industrial Sciences Colorado State University* As American industry races into the future the need for training in robotics grows more pressing daily A pair of professors in this new discipline describe how they were able to help their university respond to requests from nearby corporations by initiating courses in the subject 100

Professional Development and Audio-Assisted Independent Study in Mental Health, *by Dr Peter Geib Moorhead State University and by Dr George R Wilson University of Nevada Reno* A pair of experts explain why continuing education for staff professionals is important and suggest the use of audiotapes for in-service training 106

ON OUR COVER

6 MARCH 1984

VocEd

March 1984 Vol. 59, No. 2

Features

24 Seeing the Applications Makes Learning Science Exciting — John G. [illegible]

27 The "Principles of Technology" Project — Larry G. Selland

Teaching the Right Stuff: Where It's Happening Today

30 Voc Ed Students Need Math and Science — [illegible]

31 Not Just a Skill, But a Solid Education — Clarence W. [illegible] and Harry N. [illegible]

34 We Integrated the Academics — Harold L. Carr

36 There's a Lot of Math and Science in a High-Tech Car — [illegible]

38 A School Ahead of Its Time — Robert W. [illegible] and Richard F. Allen

40 Voc Ed Helped My Science Career — Mark [illegible]

Departments

6 Letters

10 Executive Directions

15 Forum — Paul D. Collins, [illegible]

18 Partnership — [illegible]

19 About This Issue

42 Teaching Aids

48 Books

52 Advertisers

53 Vocational Viewpoint — Henry B. [illegible]

Cover photo by [illegible], Aberdeen, Washington

1983–84 VocEd Themes

August—Annual Teaching Issue

September—Vocational Education in Community Colleges

October—Retooling the Work Force

November/December—Keeping the Profession Current

January/February—Policy, Programs and Funding

March—Math, Science and Technology: Bridging the Gap

April—The Applications of Technology to Teaching

May—The Implications of Societal Change

Coming in April

[illegible]

Insiders

[illegible]

April 1984 Vol. 59, No. 3

Features

20 Into the Third Wave — Gabriel D. [illegible]

22 A Dish on Every Rooftop? — Loren [illegible]

25 Navigating the Software Maze — Maurice C. Mitchell, Jr.

27 Learning Is a Matter of Style — Anthony F. Gregorc and Kathleen A. Butler

30 Getting Ready for Micros — Gene L. Roth, Dennis G. [illegible], Roger A. [illegible] and Harold F. [illegible]

32 Two Thousand Apples for Our Teachers — D. Robert [illegible]

34 High-Tech Training for High-Tech Workers — Norm Schneider

36 When VOICE Speaks, Educators Listen — Gwen C. Cooke and Nona [illegible]

Departments

6 Letters

8 Executive Directions

11 Research in Action

13 It Works! — Charles L. Downs and James C. [illegible], [illegible]

17 Forum — Phillip Zurbrick

19 About This Issue

39 Teaching Aids

43 Books

46 Advertisers

Call for Manuscripts
1984–85
VocEd Themes
See page 18

Cover by Nancy Park Martire

Coming Next Month

[illegible]

Insiders

[illegible]